March 14, 2025

Ilana Glickman
Ranee Management
4122 Bathurst Street
Toronto, Ontario M3H 3P2
ilanag@ranee.ca

RE: RESPONSES TO CITY OF MISSISSAUGA COMMENTS DATED NOVEMBER 8, 2024
UPDATED TRANSPORTATION STUDY – ADDENDUM 2
1840-1850 BLOOR STREET, CITY OF MISSISSAUGA

1.0 INTRODUCTION

BA Group is retained to provide transportation consulting services related to the proposed development of lands municipally known as 1840-1850 Bloor Street in the City of Mississauga (herein referred to as "the site"). The site is generally bounded by Bloor Street to the north, an apartment building to the east (Lenworth Towers, 1900 Bloor Street), industrial uses to the south (Wajax Industrial Solutions, 3280 Wharton Way) and a hydro corridor to the west.

BA Group first prepared a report entitled *Proposed Residential Development, 1840-1850 Bloor Street, City of Mississauga* dated March of 2020 (referred to herein as the "March 2020 Report") which was submitted to the City of Mississauga and Region of Peel as part of the Zoning By-law Amendment application.

Subsequently, comments were received from the City of Mississauga in a letter dated July 10, 2020. Responses to these comments were then provided in an addendum letter dated November of 2022 (the "November 2022 Addendum"). It is our understanding that the November 2022 Addendum was not reviewed by the City of Mississauga at the time of submission and that additional comments were provided in November of 2024. These comments appear to have been based on a re-review of the March 2020 Report. BA Group met with the City of Mississauga in November 2024 to discuss the various submissions and related comments, at which time outstanding matters were identified.

This letter provides responses to the outstanding comments. Recognizing that there are no changes to the concept plan from a transportation perspective, the responses are focussed on revised analysis that reflects updated base traffic counts as well as the future changes in lane configurations along Bloor Street as a result of the City of Mississauga plans for the corridor.

2.0 RESPONSES TO COMMENTS

Comment: *An Urban Transportation Considerations report prepared by BA group dated March 2020, updated on November 2021, was submitted to address previous comments but deemed incomplete as comments below are still outstanding. The following requested information should be included in an updated comprehensive TIS report.*

Response: An update to the March 2020 Report was submitted in November of 2022 (the "November 2022 Addendum"). The November 2022 Addendum should be reviewed in conjunction with the additional details provided in this letter.

Comment: *The study must be updated to assess the horizon years as 5 years from the completion of the updated study.*

Response: As per discussions with City staff, the study is revised to include updated traffic counts (completed in 2025), signal timings and background growth. The background growth is based on corridor growth rates provided by the City. The analysis reflects a 5-year horizon (from the current year 2025 to the year 2030). The future Bloor Street configuration is also incorporated into the analysis based on the City of Mississauga preliminary design plans for the corridor that were approved by City Council on June 28, 2023 (Alternative 6 design).

Comment: *Provide the Terms of Reference that was agreed upon with City of Mississauga Staff in the appendices.*

Response: The Terms of Reference that was submitted to the City dated November 21, 2019, is provided in **Appendix B**.

Comment: *Certification Form - The Transportation Consultant must complete, sign, and seal the Certification Form from the City's TIS Guidelines and append the document to the report to ensure compliance with qualification requirements.*

Response: A signed copy is provided in **Appendix C**.

Comment: *Provide Turning Movement Counts in the appendices.*

Response: The updated turning movement counts are provided in **Appendix D**.

Comment: *Provide Signal Timings Plans in the appendices.*

Response: The updated signal timing cards are provided in **Appendix E**.

Comment: *Provide supporting documents for the background development site traffic from the source material in the appendices.*

Response: The supporting documents for background developments adopted in the March 2020 Report were provided in the November 2022 Addendum and are reattached in **Appendix F**. However, as per discussions with City staff, the update analysis presented in this letter adopts background growth that is based on corridor growth rates.

Comment: *Due to the scope of these comments, a comprehensive updated TIS will be required to address these comments. Further comments may be provided as a result of updated information.*

Response: As per discussion with City staff, this letter is intended to address the outstanding comments and serve as an update to the March 2020 Report and November 2022 Addendum.

3.0 TRAFFIC VOLUME FORECASTING

3.1 Baseline Existing Traffic Volumes

Updated turning movement counts (TMCs) were conducted by Spectrum Traffic Inc. on behalf of BA Group for the study area intersections in January 2025. The counts were completed during the weekday morning and afternoon peak periods (the busiest hours of traffic on weekdays are generally between 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.).

The list of study area intersections and respective data collection information is provided in **Table 1**. All collected turning movement count data is provided in **Appendix D**.

Table 1 Data Collection Information

Intersection	Date of Count	Source
Bloor Street / Fieldgate Drive	Tuesday, January 23, 2025	Spectrum Traffic Data
Bloor Street / Bridgewood Drive / Site Driveway		

The turning movement volumes were then rounded to the nearest five (5) vehicles and reviewed in detail to ensure a general consistency in the traffic volumes on links between intersections. The resultant baseline existing traffic volumes for the weekday morning and afternoon peak hours adopted for the purposes of this analysis are illustrated in **Figure 1**.

The traffic volumes are generally consistent with those recorded in 2019 (pre-COVID), with the exception of peak direction volumes on the Bloor Street corridor, which are lower in 2025.

3.2 Future Background Traffic Volumes

3.2.1 Analysis Horizons

An analysis horizon of 2030 (buildout year 5 years from the completion of the updated analysis) is adopted for all study area intersections.

3.2.2 Background Growth

Based on discussions with City of Mississauga staff, background growth considerations are based on the corridor growth rates provided by the City for Bloor Street. These rates are summarized in **Table 2**.

All rates are annually compounded from the current year of 2025 to the horizon year of 2030.

Table 2 Corridor Growth Rates from the City

Corridor	Travel Direction	AM Peak Hour	PM Peak Hour
Bloor Street	Eastbound	0.5%	0.5%
	Westbound	1.0%	0.5%

Future background traffic volumes (consisting of the established baseline existing traffic volumes and background growth traffic volumes) for the 2030 horizon year are illustrated in **Figure 2**.

3.2.3 Site Traffic Volumes

Based on the updated traffic counts in 2025, the site generates 110 and 130 two-way vehicle trips in the weekday morning and afternoon peak hours, respectively. The previous March 2020 Report counted 120 and 140 two-way vehicle trips in the weekday peak hours, approximately 10 more than the recent 2025 traffic count. The existing trip generation rate of the site is lower under more recent conditions compared to those summarized in the March 2020 Report.

Nevertheless, given that the proposed development programme remains unchanged from the original March 2020 Report, the adopted new site traffic volumes from the March 2020 Report (for the 433 new units) have been maintained. This is likely conservative given the lower trip rate observed in 2025.

The resulting total site traffic volumes are summarized in **Table 3**. **Figure 3** illustrates the total site traffic volumes (existing site trips plus new proposed site trips) on the study area road network.

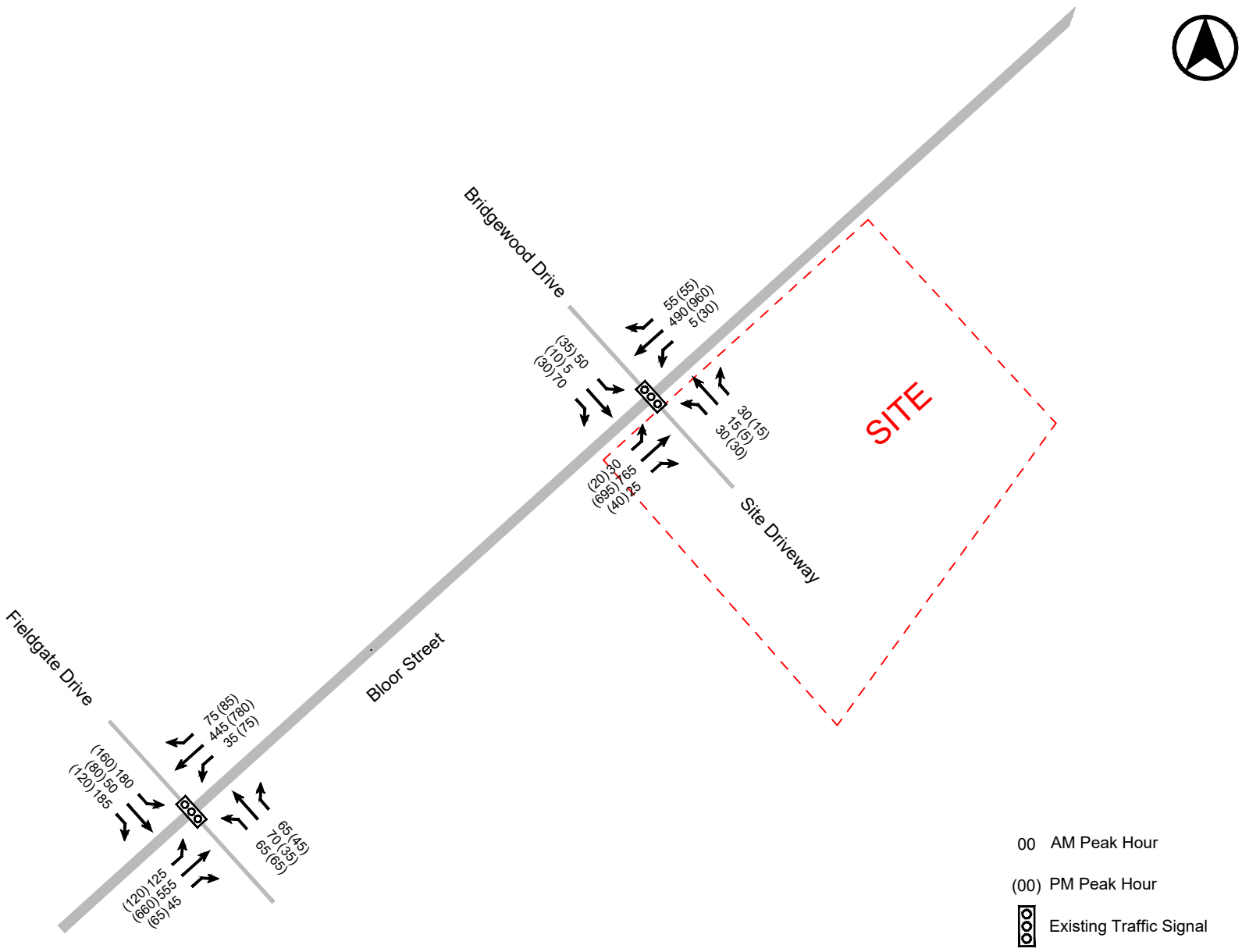
Table 3 Site Trip Generation

	AM Peak Hour			PM Peak Hour		
	In	**Out**	**2-Way**	**In**	**Out**	**2-Way**
Existing Site Trip Generation Comparison						
Existing Site Trips from March 2020 Report	30	90	120	85	55	140
March 2020 Trip Rate (334 units)	*0.09*	*0.27*	*0.36*	*0.25*	*0.16*	*0.41*
Existing Site Trips from Recent 2025 Count[1]	35	75	110	80	50	130
Current 2025 Trip Rate (334 units)	*0.10*	*0.23*	*0.33*	*0.24*	*0.15*	*0.39*
Total Site Trip Generation Summary (Existing 2025 + Proposed)						
New Proposed Site Trips (433 units)[2]	40	115	155	110	70	180
Total Site Trips[3]	**75**	**190**	**265**	**190**	**120**	**310**

Notes:
1. The existing site trips were counted as part of the data collection process discussed in **Section 3.1** in January of 2025.
2. The new site trips were taken directly from the March 2020 Report, which is likely conservative for analysis purposes given the current lower trip rate.
3. The total site trips are equal to the existing site trips from the 2025 count plus the new proposed site trips from the March 2020 Report.

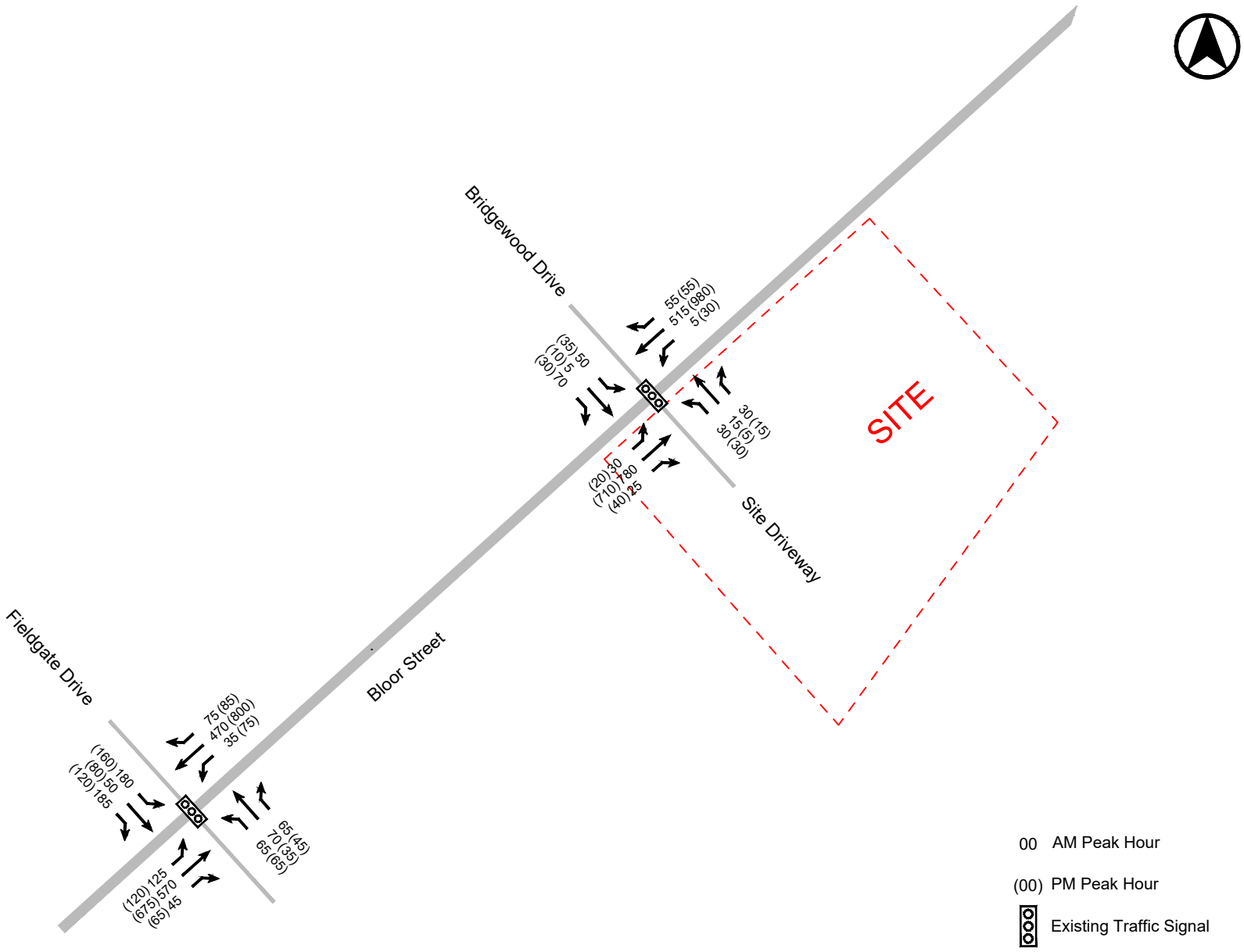
3.3 Future Total Traffic Volumes

Future total traffic volumes (consisting of the future background traffic volumes and site traffic volumes) are illustrated in **Figure 4**.



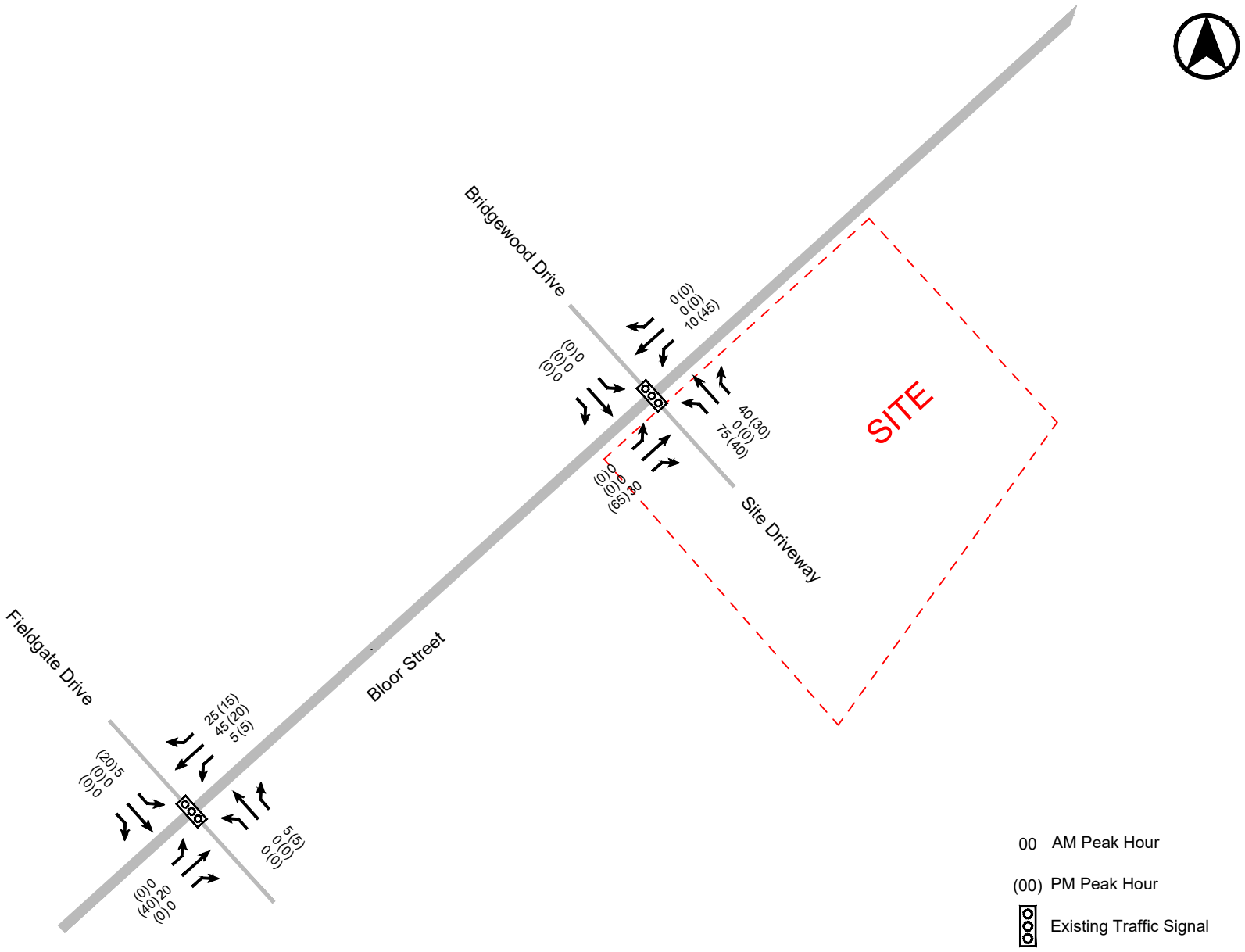
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FIGURE 1 BASELINE EXISTING TRAFFIC VOLUMES



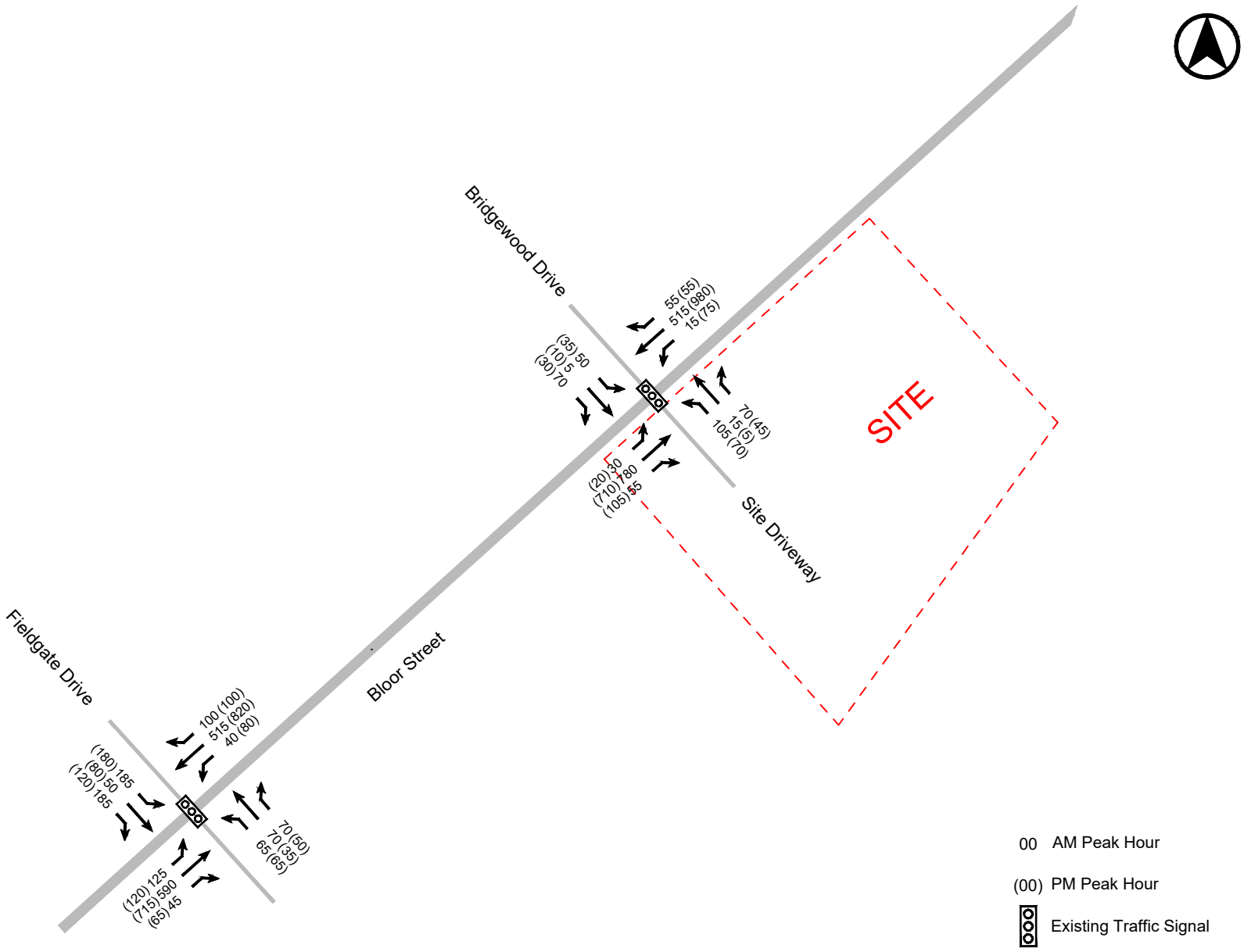
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FIGURE 2 FUTURE BACKGROUND TRAFFIC VOLUMES



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FIGURE 3 SITE TRAFFIC VOLUMES



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FIGURE 4 FUTURE TOTAL TRAFFIC VOLUMES

4.0 TRAFFIC OPERATIONS ANALYSIS

4.1 Analysis Methodology

The intersection capacity analysis was completed using Synchro Version 11.0 and the Highway Capacity Manual (HCM) methodology.

For signalized intersections, the volume-to-capacity ratio (v/c) is an indicator of the capacity utilization for the key movements in the intersection. A v/c of 1.00 indicates that certain governing traffic movements through the intersection are operating at or near maximum capacity. The primary overall level of service (LOS) indicator is delay, both on individual movements and expressed as an average for all vehicles processed. Many busy urban intersections operate at LOS D to E, which reflects average delays in the range of 35 to 80 seconds.

For unsignalized intersections, level of service (LOS) characterizes operational conditions for key movements in terms of delay within the traffic stream. LOS A represents a good level of service with short delays. LOS F represents a poor level of service with long delays. The volume to capacity ratio (v/c) is an indicator of the capacity utilization for key movements at the intersection and resultant residual capacity potential.

The LOS criteria provided by the HCM methodology is summarized as follows:

Signalized Intersection LOS

- LOS A: Control Delay ≤ 10s LOS B: 10s < Control Delay ≤ 20s
- LOS C: 20s < Control Delay ≤ 35s
- LOS D: 35s < Control Delay ≤ 55s
- LOS E: 55s < Control Delay ≤ 80s
- LOS F: Control Delay > 80s

Unsignalized Intersection LOS

- LOS A: Control Delay ≤ 10s
- LOS B: 10s < Control Delay ≤ 15s
- LOS C: 15s < Control Delay ≤ 25s
- LOS D: 25s < Control Delay ≤ 35s
- LOS E: 35s < Control Delay ≤ 50s
- LOS F: Control Delay > 50s

4.2 Modelling Input and Calibration Parameters

Key parameters used in the analysis include:

Lane Configuration

Under existing traffic conditions, the Synchro model adopts the existing lane configuration. Under future traffic conditions, both existing and future lane configurations were analyzed. The future lane configurations provided by the City of Mississauga preliminary redesign of Bloor Street (Alternative 6) were implemented into the Synchro models at both study area intersections. The preliminary design, obtained from the City's website, is attached in **Appendix H**.

Signal Timing Plans

The existing signal timing plans at the study area signalized intersections were provided by the City of Mississauga. These are attached in **Appendix E**.

Other Data Inputs

Heavy vehicle percentages, peak hour factors and pedestrian and bicycle crossing volumes were derived from existing traffic counts. Where field data is not available, default values assumed in the Synchro models were adopted.

4.3 Bloor Street Redesign and Analysis Scenarios

On June 28, 2023, City Council approved Alternative 6 of the Bloor Street redesign from Central Parkway East in the west to Etobicoke Creek in the east. This redesign alters the configuration of the two signalized intersections that are included in the study area road network, including the signalized site access across Bridgewood Drive. It is noteworthy that the City's Planning and Engineering Services memorandum City Council dated June 23, 2023, states that "*if Alternative 6 were to be recommended, both Bloor Street and the adjacent transportation network will operate at an acceptable LOS*" and that "*Bloor Street is expected to be less congested with Alternative 6 than with Alternative 5. This is likely the result of Bloor Stret becoming less attractive as a through-route for motorists with the reduction in vehicular lanes*." The preliminary design drawings pertaining to Alternative 6 are attached in **Appendix H**.

The Bloor Street / Bridgewood Drive / Site Access intersection currently has shared left-through and right-through lanes in both the eastbound and westbound direction. The northbound and southbound lanes are both configured as shared left-through-right lanes, which will remain unchanged. According to the City's new Alternative 6 design, the existing configuration is expected to undergo changes summarized as follows:

- The curb lane will be converted from an existing shared through-right configuration to an exclusive right turn lane, thus reducing the westbound through lanes from two (2) lanes to one (1) lane.
- The remaining westbound through lane is a shared through-left configuration. The left turn provision at the intersection serves inbound site traffic. The single westbound lane continues west of the intersection.
- Bicycle crossrides are added along the north, west and south sides of the intersection. The west side crossing will be a two-way bicycle crossing, while the north and south side crossings will serve westbound and eastbound travel, respectively.

As noted in the City's memorandum, the changes discussed above will have noticeable impacts on the operations at the intersection (including the site access). For the purposes of demonstrating these impacts, three analysis scenarios have been covered in this study:

- **Scenario 1:** Existing lane configurations and existing signal timings
- **Scenario 2:** Future lane configurations (as per Alternative 6 design) and existing signal timings
- **Scenario 3:** Future lane configurations (as per Alternative 6 design) and future-proposed signal timings

4.4 Study Area Intersections Analysis Results

4.4.1 Scenario 1 – Existing Lane Configurations and Existing Signal Timings

Scenario 1 models the condition where lane configurations and signal timings remain unchanged relative to existing (current) conditions. Bloor Street continues to have two through lanes in both the westbound and eastbound directions.

The Scenario 1 analysis results of the study area intersections are provided in **Table 4**. Under existing and future conditions in Scenario 1, the study area intersections operate acceptably at overall v/c of 0.56 or better during the weekday peak hours. With the proposed site development, the shared westbound lane group (including inbound site drivers) at the Bloor Street / Bridgewood Drive / Site Driveway intersection operates at overall v/c of 0.29 and 0.64 in the weekday morning and afternoon peak hours, respectively.

Table 4 **Scenario 1** Traffic Operations Analysis Results

Movement	Existing Traffic Conditions			Future Background Traffic Conditions			Future Total Traffic Conditions		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
Bloor Street / Fieldgate Drive									
EBL	0.18 (0.22)	A (A)	9.0 (9.4)	0.27 (0.36)	A (B)	9.8 (11.2)	0.29 (0.37)	B (B)	10.0 (11.7)
EBTR	0.21 (0.25)	A (A)	9.7 (10.0)	0.32 (0.37)	B (B)	10.8 (11.1)	0.33 (0.39)	B (B)	11.0 (11.5)
WBL	0.09 (0.17)	B (B)	10.5 (18.3)	0.11 (0.25)	B (C)	14.6 (25.1)	0.13 (0.28)	B (C)	14.0 (26.2)
WBTR	0.22 (0.37)	B (B)	10.8 (19.0)	0.35 (0.55)	B (C)	15.9 (27.2)	0.40 (0.58)	B (C)	15.1 (28.6)
NBL	0.23 (0.18)	C (C)	28.3 (27.8)	0.27 (0.24)	C (C)	28.6 (28.4)	0.27 (0.23)	C (C)	28.5 (28.1)
NBTR	0.16 (0.09)	C (C)	27.5 (27.0)	0.22 (0.11)	C (C)	27.8 (27.0)	0.23 (0.11)	C (C)	27.8 (26.9)
SBL	0.48 (0.41)	C (C)	31.2 (30.4)	0.56 (0.48)	C (C)	32.9 (31.1)	0.58 (0.53)	C (C)	33.4 (32.0)
SBTR	0.18 (0.18)	C (C)	27.7 (27.8)	0.24 (0.32)	C (C)	28.0 (29.1)	0.24 (0.32)	C (C)	27.9 (28.9)
Overall	**0.31 (0.37)**	**B (B)**	**16.8 (18.1)**	**0.42 (0.51)**	**B (C)**	**18.2 (21.7)**	**0.45 (0.55)**	**B (C)**	**17.9 (22.4)**
Bloor Street / Bridgewood Drive / Site Driveway									
EBTLR	0.31 (0.27)	A (A)	7.4 (5.5)	0.43 (0.38)	A (A)	7.0 (5.0)	0.45 (0.43)	A (A)	7.2 (5.9)
WBTLR	*0.19 (0.35)*	*A (A)*	*7.0 (7.4)*	*0.28 (0.52)*	*A (A)*	*7.6 (9.1)*	*0.29 (0.64)*	*A (B)*	*7.8 (12.0)*
NBTLR	0.42 (0.10)	C (C)	34.7 (32.8)	0.18 (0.14)	C (C)	31.9 (33.1)	0.65 (0.34)	D (C)	40.8 (33.5)

Movement	Existing Traffic Conditions			Future Background Traffic Conditions			Future Total Traffic Conditions		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
SBTLR	0.32 (0.15)	C (C)	33.3 (33.2)	0.29 (0.18)	C (C)	33.1 (33.5)	0.31 (0.17)	C (C)	33.2 (31.8)
Overall	**0.34 (0.31)**	**B (A)**	**12.9 (8.6)**	**0.40 (0.44)**	**B (A)**	**10.4 (9.0)**	**0.50 (0.56)**	**B (B)**	**12.8 (11.5)**

Notes:
1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour).

4.4.2 Scenario 2 – Future Lane Configurations and Existing Signal Timings

Scenario 2 models the condition where signal timings remain unchanged relative to existing (current) conditions, but future lane configurations are based on the City of Mississauga Alternative 6 redesign of Bloor Street (attached in **Appendix H**). Bloor Street will be reduced to one through lane in the westbound direction that is also shared with westbound left turning vehicles into the site.

The Scenario 2 analysis results of the study area intersections are provided in **Table 5**. Under future conditions in Scenario 2, the study area intersections exhibit an overall v/c of 0.87 or better in both peak hours. However, given the westbound lane reduction, the shared westbound lane group (including inbound site drivers) operates at v/c of up to 1.05 in the weekday afternoon peak hour at the Bloor Street / Bridgewood Drive / Site Driveway intersection. It is likely that the analysis in this scenario is conservative, given that there was no adopted reduction in traffic volumes despite the reduction in travel lanes. Additionally, as previously mentioned, the City's Planning and Engineering Services memorandum to City Council dated June 23, 2023, states that "*if Alternative 6 were to be recommended, both Bloor Street and the adjacent transportation network will operate at an acceptable LOS*" and that "*Bloor Street is expected to be less congested with Alternative 6 than with Alternative 5. This is likely the result of Bloor Stret becoming less attractive as a through-route for motorists with the reduction in vehicular lanes*."

Table 5 **Scenario 2** Traffic Operations Analysis Results

Movement	Existing Traffic Conditions			Future Background Traffic Conditions			Future Total Traffic Conditions		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
Bloor Street / Fieldgate Drive									
EBL	0.18 (0.25)	A (B)	9.3 (11.2)	0.30 (0.55)	B (C)	11.2 (22.1)	0.33 (0.55)	B (C)	12.0 (22.8)
EBT	0.36 (0.42)	B (B)	11.5 (12.1)	0.56 (0.64)	B (B)	14.7 (16.2)	0.58 (0.68)	B (B)	15.1 (17.4)
EBR	0.03 (0.04)	A (A)	8.5 (8.5)	0.03 (0.04)	A (A)	8.7 (8.6)	0.03 (0.04)	A (A)	8.7 (8.7)
WBL	0.09 (0.15)	B (C)	12.5 (23.8)	0.11 (0.28)	C (C)	20.6 (26.0)	0.13 (0.33)	B (C)	19.3 (25.2)
WBT	0.34 (0.61)	B (C)	14.4 (29.9)	0.57 (0.94)	C (D)	26.1 (47.3)	0.63 (0.97)	C (D)	25.6 (44.7)

Movement	Existing Traffic Conditions			Future Background Traffic Conditions			Future Total Traffic Conditions		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
WBR	0.05 (0.05)	B (D)	12.0 (43.3)	0.06 (0.07)	C (D)	33.4 (37.5)	0.07 (0.08)	C (D)	29.2 (35.1)
NBL	0.24 (0.18)	C (C)	28.4 (27.8)	0.28 (0.24)	C (C)	28.6 (28.3)	0.27 (0.23)	C (C)	28.5 (28.2)
NBTR	0.16 (0.09)	C (C)	27.5 (27.0)	0.23 (0.11)	C (C)	27.9 (27.0)	0.23 (0.11)	C (C)	27.8 (26.9)
SBL	0.49 (0.42)	C (C)	31.4 (30.5)	0.58 (0.49)	C (C)	33.3 (31.3)	0.60 (0.55)	C (C)	33.8 (32.4)
SBTR	0.19 (0.19)	C (C)	27.8 (27.8)	0.25 (0.33)	C (C)	28.1 (29.1)	0.25 (0.32)	C (C)	28.0 (28.9)
Overall	**0.42 (0.53)**	**B (C)**	**18.2 (23.4)**	**0.58 (0.76)**	**C (C)**	**22.7 (30.9)**	**0.61 (0.80)**	**C (C)**	**22.7 (30.3)**
Bloor Street / Bridgewood Drive / Site Driveway									
EBTLR	0.31 (0.26)	A (A)	7.2 (5.4)	0.43 (0.41)	A (A)	6.8 (5.0)	0.45 (0.50)	A (A)	6.9 (6.1)
WBTL	*0.31 (0.59)*	*A (B)*	*8.2 (10.9)*	*0.46 (0.88)*	*A (C)*	*9.7 (22.6)*	*0.48 (1.05)*	*B (E)*	*10.2 (58.4)*
WBR	0.03 (0.04)	A (A)	6.1 (5.5)	0.04 (0.04)	A (A)	6.2 (5.5)	0.04 (0.04)	A (A)	6.3 (6.2)
NBTLR	0.43 (0.10)	C (C)	34.8 (32.8)	0.18 (0.14)	C (C)	32.0 (33.1)	0.67 (0.34)	D (C)	41.5 (33.5)
SBTLR	0.33 (0.15)	C (C)	33.5 (33.2)	0.31 (0.18)	C (C)	33.2 (33.5)	0.32 (0.17)	C (C)	33.2 (31.9)
Overall	**0.34 (0.49)**	**B (B)**	**13.2 (10.2)**	**0.42 (0.72)**	**B (B)**	**10.9 (15.9)**	**0.53 (0.87)**	**B (C)**	**13.5 (34.3)**

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour).
2. Scenario 2 analysis results incorporate future lane configurations and existing signal timings. Lane configurations are taken from the City's Alternative 6 design plans for Bloor Street, attached in **Appendix H**.

4.4.3 Scenario 3 – Future Lane Configurations and Future Proposed Signal Timings

Scenario 3 models the condition where future lane configurations are based on the City of Mississauga preliminary redesign of Bloor Street (attached in **Appendix H**) and signal timing improvements are proposed. With the redesign of Bloor Street, it is recommended that traffic operations along Bloor Street continue to be monitored, and necessary signal timing improvements be implemented to adjust to future corridor travel demand. In this study, a cycle length increase from 100 seconds to 120 seconds is modeled at both Bloor Street intersections in the weekday afternoon peak hour only. Similarly to Scenario 2, Bloor Street will be reduced to one through lane in the westbound direction that is also shared with westbound left turning vehicles into the site.

The Scenario 3 analysis results of the study area intersections are provided in **Table 6**. With the signal timing changes in future conditions in Scenario 3, the study area intersections operate at overall v/c of up to 0.85 during both peak hours. Compared to Scenario 2 without the signal timing changes, the shared westbound lane group (including inbound site

drivers) improves to v/c of 0.97 in the weekday afternoon peak hour at the Bloor Street / Bridgewood Drive / Site Driveway intersection. As previously discussed under Scenario 2 results, it is likely that the analysis in this scenario is conservative, given that there was no adopted reduction in traffic volumes despite the reduction in travel lanes.

Table 6 **Scenario 3** Traffic Operations Analysis Results

Movement	Existing Traffic Conditions			Future Background Traffic Conditions			Future Total Traffic Conditions		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
Bloor Street / Fieldgate Drive									
EBL	0.18 (0.22)	A (A)	9.3 (9.3)	0.30 (0.47)	B (B)	11.2 (17.8)	0.33 (0.50)	B (B)	12.0 (19.3)
EBT	0.36 (0.37)	B (B)	11.5 (10.1)	0.56 (0.58)	B (B)	14.7 (13.3)	0.58 (0.61)	B (B)	15.1 (14.2)
EBR	0.03 (0.04)	A (A)	8.5 (7.2)	0.03 (0.05)	A (A)	8.7 (7.4)	0.03 (0.04)	A (A)	8.7 (7.5)
WBL	0.09 (0.13)	B (B)	12.5 (11.6)	0.11 (0.22)	C (B)	20.6 (17.3)	0.13 (0.26)	B (B)	19.3 (17.6)
WBT	0.34 (0.51)	B (B)	14.4 (14.4)	0.57 (0.78)	C (C)	26.1 (24.5)	0.63 (0.80)	C (C)	25.6 (25.1)
WBR	0.05 (0.05)	B (B)	12.0 (10.5)	0.06 (0.06)	C (C)	33.4 (25.4)	0.07 (0.07)	C (C)	29.2 (24.3)
NBL	0.24 (0.23)	C (D)	28.4 (37.8)	0.28 (0.31)	C (D)	28.6 (38.7)	0.27 (0.31)	C (D)	28.5 (38.4)
NBTR	0.16 (0.11)	C (D)	27.5 (36.4)	0.23 (0.12)	C (D)	27.9 (36.3)	0.23 (0.13)	C (D)	27.8 (36.1)
SBL	0.49 (0.51)	C (D)	31.4 (41.5)	0.58 (0.59)	C (D)	33.3 (43.7)	0.60 (0.66)	C (D)	33.8 (46.6)
SBTR	0.19 (0.26)	C (D)	27.8 (37.9)	0.25 (0.42)	C (D)	28.1 (39.6)	0.25 (0.41)	C (D)	28.0 (39.4)
Overall	**0.42 (0.50)**	**B (B)**	**18.2 (18.6)**	**0.58 (0.72)**	**C (C)**	**22.7 (23.7)**	**0.61 (0.75)**	**C (C)**	**22.7 (24.4)**
Bloor Street / Bridgewood Drive / Site Driveway									
EBTLR	0.31 (0.25)	A (A)	7.2 (4.9)	0.43 (0.36)	A (A)	6.8 (4.7)	0.45 (0.42)	A (A)	6.9 (5.5)
WBTL	*0.31 (0.55)*	*A (A)*	*8.2 (9.0)*	*0.46 (0.82)*	*A (B)*	*9.7 (16.7)*	*0.48 (0.97)*	*B (D)*	*10.2 (35.4)*
WBR	0.03 (0.04)	A (A)	6.1 (4.6)	0.04 (0.04)	A (A)	6.2 (4.6)	0.04 (0.04)	A (A)	6.3 (5.2)
NBTLR	0.43 (0.12)	C (D)	34.8 (42.8)	0.18 (0.16)	C (D)	32.0 (43.2)	0.67 (0.42)	D (D)	41.5 (44.4)

Movement	Existing Traffic Conditions			Future Background Traffic Conditions			Future Total Traffic Conditions		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
SBTLR	0.33 (0.18)	C (D)	33.5 (43.3)	0.31 (0.24)	C (D)	33.2 (43.9)	0.32 (0.23)	C (D)	33.2 (42.2)
Overall	**0.34 (0.48)**	**B (A)**	**13.2 (9.8)**	**0.42 (0.71)**	**B (B)**	**10.9 (13.3)**	**0.53 (0.85)**	**B (C)**	**13.5 (23.7)**

Notes:

1. XX (XX) – Weekday Morning Peak Hour (Weekday Afternoon Peak Hour).
2. Scenario 3 analysis results incorporate future lane configurations and future proposed signal timings. Lane configurations are taken from the City's Alternative 6 design plans for Bloor Street, attached in **Appendix H**.

4.5 Traffic Operations Conclusions

Based on the foregoing analysis, as Bloor Street is reconstructed and as area travel demand continues to evolve in the area, it is expected that signal timing will be revised along the corridor.

With the reduction in travel lanes along Bloor Street, non-local drivers are expected to take other modes of travel or alternative routes to bypass Bloor Street should capacity constraints arise (such as Burnhamthorpe Road). As per the sensitivity analysis findings presented by the City of Mississauga on Alternative 6 design of Bloor Street, up to 66% of all drivers were found to be non-local and are longer distance trips bypassing the area.

The impact of stie traffic is modest in all analysis scenarios. No improvements are recommended as a result of site traffic.

Appendix A: Reduced Scale Architectural Site Plans



BLOOR

1840-1850 Bloor St.
CITY OF MISSISSAUGA, ON

OPA & ZBA RESUBMISSION

SUBMISSION MATERIAL - PROJECT TEAM

- **ARCHITECTURAL DRAWINGS**
- **SUN / SHADOW STUDY**
  Arcadis Architects (Canada) Inc.
  55 St.Clair Avenue West. 7th floor, Toronto, Ontario, M4V 2Y7
- **PLANNING JUSTIFICATION REPORT**
- **URBAN DESIGN STUDY**
- **DRAFT OFFICIAL PLAN ADMENDMENT**
- **DRAFT ZONING BY-LAW**
  Bousfields Inc.
  3 Church Street, Suite 200, Toronto, ON. M5E 1M2
- **LANDSCAPE CONCEPT PLAN**
  Studio TLA / Terraplan
  20 Champlain Blvd., Suite 102, Toronto, ON. M3H 2Z1
- **ARBORIST REPORT**
- **TREE INVENTORY / PRESERVATION PLAN**
  Ferris + Associates Inc.
  11 Church Street, Suite 302, Toronto, ON. M5E 1W1
- **PARKING UTILIZATION STUDY**
- **TRAFFIC IMPACT STUDY**
- **TRANSPORTATION DEMAND MANAGEMENT STRATEGY**
  BA Consulting Group Ltd.
  300 -45 St.Clair Avenue West, Toronto, Ontario, M4V 1K9
- **GRADING / SITE SERVICING PLAN,**
- **FUNCTIONAL SERVICING REPORT**
- **PHASE 1 ENVIRONMENTAL SITE ASSESSMENT**
  C.F. Crozier & Associates Consulting Engineers
  2800 High Point Drive, Suite 100, Milton, ON L9T 6P4
- **WIND STUDY**
  RWDI Consulting Engineers and Scientists
  600 Southgate Dr, Guelph ON N1G 4P6
- **ARCHAEOLOGICAL ASSESSMENT**
  Heritage Consultant
- **SURVEY PLAN**
  Speight, Van Nostrand & Gibson Limited
  750 Oakdale Road, Units 65 & 66, Toronto, ON. M3N 2Z4

ARCHITECTURAL DRAWING LIST

A000 SERIES	**SITE**
A-001	CONTEXT PLAN
A-002	SITE SURVEY & TOPOGRAPHY
A-003	CONCEPT SITE PLAN
A-004	PROJECT STATISTICS
A-005	NOISE ENVIRONMENTAL CLASS AREA PLAN
A100 SERIES	**FLOOR PLANS**
A-102	UNDERGROUND PARKING PLAN - LEVEL P1
A-103	LEVEL 1 GROUND FLOOR PLAN
A-104	LEVEL 2 FLOOR PLAN
A-105	LEVEL 3 FLOOR PLAN
A-106	LEVEL 4 FLOOR PLAN
A-107	LEVEL 5-18 FLOOR PLAN
A-108	MAIN ROOF - MECHANICAL PENTHOUSE
A-109	ROOF PLAN
A200 SERIES	**SITE / BUILDING ELEVATIONS**
A-201	NORTH AND EAST BUILDING ELEVATIONS
A-202	SOUTH AND WEST BUILDING ELEVATIONS
A300 SERIES	**SITE / BUILDING SECTIONS**
A-301	NORTH-SOUTH AND EAST-WEST BUILDING - D SECTIONS
A-302	NORTH-SOUTH AND EAST-WEST BUILDING - C SECTIONS
A500 SERIES	**VIGNETTES**
A-501	NORTH - TOP PERSPECTIVE
A-502	SOUTH EAST BIRD'S EYE PERSPECTIVE
A-503	EYE LEVEL VIGNETTE OF BUILDING C
A-504	BUILDING D ENTRY - HUMAN SCALE PERSPECTIVE
A600 SERIES	**DETAIL PLANS AND SECTION**
A-601	DETAIL PLANS AND SECTION
A-602	DETAIL PLAN AND SECTION

OWNER:
RANEE MANAGEMENT
4122 Bathurst St., Toronto, ON M3H 3P2
TEL: 416-756-3962

APPLICANT:
Bousfields Inc.
3 Church Street, Suite 200
Toronto, ON, Canada M5E 1M2
Tel: 416-947-9744

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KEYPLAN



ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR RE-ZONING	2020/03/13
2	RE-ISSUED FOR OPA & ZBA	2022/11/16

ISSUED FOR COORDINATION AND REVIEW 2024-05-01

APPROVAL STAMP

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ARCADIS ARCHITECTS (CANADA) INC.
55 St. Clair Avenue West | 7th Floor
Toronto | ON | M4V 2Y7 | Canada
T 416 596 1930 | F 416 596 0644
www.arcadis.com

PROJECT:
BLOOR
1840-1850 Bloor St.
CITY OF MISSISSAUGA, ON

LEGAL DESCRIPTION:
LOT 1
REGISTERED PLAN 775

PROJECT NO:
120303

OPA / ZBA No:
OZ 20-003 W3

SHEET TITLE
COVER PAGE

SHEET NUMBER
A-000

ISSUE
2

C:\BIM\Autodesk\ATTW\21-120303_BloorNewBuilding_SecondRevisions 2024_aNau.anton.rvt

DEVELOPMENT STATISTICS

m - Denotes Meters *min - Denotes Minimum*
sm - Denotes Square Meters *max - Denotes Maximum*

PROJECT DATA

Municipal Address of Subject Lands:	**1840 - 1850 Bloor Street** Mississauga, Ontario			
Legal Description:	**PLAN 775 PT LOT 1**			
Zoning By-law:	Zoning By-law 0225-2007, Enacting Bylaw BL-0225/07, BL-0131/18 Exception Zone Map # 19 By-law: 0174-2017			
Zoning : (Apartment) (Greenlands)	**RA4-1 G2**	Proposed Use :	**Apartment**	
Gross Site Area:	39,284.44 sm			
Permitted F.S.I. : By-law: 0174-2017	**1.00**	Proposed F.S.I. :	**1.67**	
By-law: 0225-2007 Missisauga Official Plan, Applewood Neighbourhood FSI ranges 0.5 - 1.2	1.80	Proposed GFA (combined) :	**65,778.94** sm	
		Total NEW Building C & D	31,580.94 sm	
		Total EXISTING Building A & B	34,198.00 sm	
		Existing F.S.I.	0.87	
Permitted Lot Coverage:	**40%**	Proposed Lot Coverage:	**20%**	
Lot Frontage:	204.39 m	No of Frontages:	1	
Lot Depth:	202.34 m			
Established Grade:	128.33 m	*CDG (Canadian Geodatic Datum)*		
Published Elevation	129.29 m			

BUILDING HEIGHT

PERMITTED		*PROPOSED*	
Highest point of the roof surface of a flat roof:		Highest point of the roof surface of a flat roof:	
Height to Top of MPH Roof	56.00 m	Height to Top of MPH Roof C & D:	**56.87** m
No. of Storeys Permitted:	18 storeys	No. of Storeys Proposed C & D:	**18 storeys**

BUILDING SETBACKS

PERMITTED	*m*	*PROPOSED*	*m*
Front Yard Setback	7.50	Front Yard Setback	N/A
Side Yard Setback N	4.50	Side Yard Setback N	34.00
Side Yard Setback S	4.50	Side Yard Setback S	39.00
Rear Yard Setback	7.50	Rear Yard Setback	7.50

PROPOSED LANDSCAPED SOFT AREAS

	sm	%	
Gross Site Area:	39,284.44		
Ground Floor Area*	7,944.06	20%	** Building Footprint New + Existing*
Landscaped Open Space**	19,164.59	49%	*** Soft Landscaping + Hard Landscaping areas*
Paved Surface Area***	12,175.79	31%	**** Driveway, Parking lots and loading areas*

PROPOSED RESIDENTIAL UNITS

TOTAL Number of Residential Units (A, B, C, & D): **767**

EXISTING:	*Unit Count*	NEW:	*Unit Count*
Rental Buildign A:	167	Rental Building C :	218
Rental Buildign B:	167	Rental Building D :	215
Total Units (A & B):	334	Total Units (C & D):	433

PROPOSED AMENITY

REQUIRED	*sm*	*PROVIDED*	*sm*	
New Buildings C & D (5.6 sm / Unit)	2,424.80	TOTAL Indoor Amenity Provided:	649.13	15%
Existing Buildings A & B (5.6 sm / Unit)	1,870.40	TOTAL Outdoor (other) Provided:	1,017.52	24%
		TOTAL Outdoor (at grade) Provided:	2,629.55	61%
Required TOTAL:	**4,295.20**	TOTAL Amentiy:	**4,296.20**	
Amenity location				
50% in one contiguos area	2,147.60	61% contiguos area provided at grade		
Min outdoor at grade	55.00	2,629 sm provided at grade		

PROPOSED PARKING SPACE

REQUIRED	Prk.Spaces	*PROVIDED*	Prk.Spaces
Total Parking Spaces Required:	**1078**	Total Parking Spaces Provided:	**1035**
		RATIO PROPOSED (Res: 1.15 / Unit Vis: 0.20 / Unit)	1.35
New Building C & D		Breakdown of parking space by location:	
Breakdown of parking space by ratio:		Open Surface Spaces	272
Studio (1.00)	0	P1 Existing 'A' (Existing)	75
1 Bedroom (1.18)	214	P1 Existing 'B' (Existing)	99
2 Bedroom (1.36)	284	Above Grade Parking	261
3 Bedroom (1.50)	65	Below Grade Parking	328
Residential TOTAL:	**562**	TOTAL:	1035
Visitor TOTAL (0.20/unit)	**87**	Breakdown of parking spaces by building assignment:	
TOTAL:	649	**Buildign A + B Existing**	**450**
Building A and B Existing	429	RATIO PROPOSED (Res: 1.15 / Unit Vis: 0.20 / Unit)	1.35
TOTAL:	1078	**Buildign C + D**	**585**
		RATIO PROPOSED (Res: 1.15 / Unit Vis: 0.20 / Unit)	1.35

PROPOSED BICYCLE PARKING

REQUIRED	*PROVIDED*	
LONG TERM RATIO: 0.7 / UNIT	LONG TERM - Building C, D	380
SHORT TERM RATIO: 0.08 / UNIT	SHORT TERM - Building A,B,C,D	66
	TOTAL No. Bicycle Parking:	446

PROPOSED LOADING SPACE

REQUIRED	1 / Building	*PROVIDED*	
Type of Loading Space Required:	3.5m x 9.0m	Type of Loading Space Provided:	3.5m x 9.0m
Building A	1	Building A	1
Building B	1	Building B	1
Building C	1	Building C	1
Building D	1	Building D	1
TOTAL No. of Loading Spaces:	4	TOTAL No. of Loading Spaces:	4

BREAKDOWN OF PROJECT DATA BY COMPONENTS - PROPOSED NEW BUILDINGS C & D

PROPOSED RESIDENTIAL UNIT MIX

PROVIDED BUILDING C Unit Type	*Unit Count*		PROVIDED BUILDING D Unit Type	*Unit Count*	
Studio	0	0%	Studio	0	0%
1 Bedroom	93	43%	1 Bedroom	88	41%
2 Bedroom	103	47%	2 Bedroom	106	49%
3 Bedroom	22	10%	3 Bedroom	21	10%
TOTAL:	**218**		TOTAL:	**215**	

PROPOSED AREAS

Zoning GFA	*sm*			
NEW C Residential GFA****	15,781.13	**** *GFA as defined by Zoning By-law*		
NEW D Residential GFA****	15,799.81	Max GFA for each Storey above 12 Storeys	1,000.00	sm
TOTAL:	**31,580.94**	Proposed Floor Area (envelope) above 12 Storeys	977.00	sm

BREAKDOWN OF PROJECT DATA BY COMPONENTS - EXISTING BUILDIGNS A & E

RESIDENTIAL UNIT MIX - EXISTING

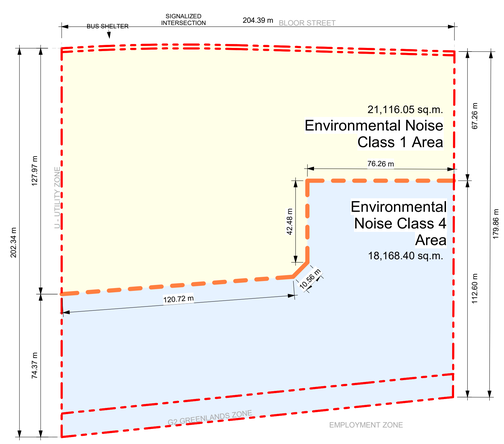
Existing BUILDING A - 1840 Bloor Unit Type	*Unit Count*		Existing BUILDING B - 1850 Bloor Unit Type	*Unit Count*	
Studio	0	0%	Studio	0	0%
1 Bedroom	84	50%	1 Bedroom	83	50%
2 Bedroom	57	34%	2 Bedroom	56	34%
3 Bedroom	26	16%	3 Bedroom	28	17%
TOTAL:	**167**		TOTAL:	**167**	

AREAS - EXISTING

Existing GFA	*sm*	
1840 EXISTING A Residential GFA ¹	17,099.00	¹ *As per Mississauga Data WITH NO DEDUCTIONS*
1850 EXISTING B Residential GFA ¹	17,099.00	
TOTAL:	34,198.00	

SURVEY INFORMATION BASED ON PLAN OF SURVEY SHOWING TOPOGRAPHICAL DATA OF LOT 1 REGISTERED PLAN 775 CITY OF MISSISSAUGA REGIONAL MUNICIPALITY OF PEEL PREPARED BY SPEIGHT, VAN NOSTRAND & GIBSON LIMITED DATED MAY 22, 2019

ALL BUILDING HEIGHTS ARE DIMENSIONED FROM ESTABLISHED GRADE



TREE PROTECTION NOTE:

The applicant is responsible for ensuring that tree protection hoarding is maintained throughout all phases of demolition and construction in the location and condition as approved by the Planning and Building Department. No materials (building materials, soil, etc.) may be stockpiled within the area of hoarding. Failure to maintain the hoarding as originally approved or the storage of materials within the hoarding will be cause for the Letter of Credit to be held for two years following completion of all site works. Hoarding must be inspected prior to the removal of any tree hoarding from the site.

Owner's Signature: _____

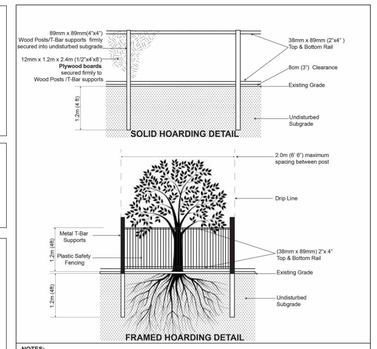
Date: _____

SITE PLAN NOTES:

1. THE MICROCLIMATE SPECIALIST SHALL CONFIRM TO THE SATISFACTION OF THE PLANNING AND BUILDING DEPARTMENT THAT THE 'AS CONSTRUCTED' BUILDINGS AND WIND MITIGATION FEATURES ARE IN COMPLIANCE WITH THE RECOMMENDATIONS OF THE FINAL APPROVED PEDESTRIAN WIND COMFORT AND SAFETY STUDY

WASTE MANAGEMENT NOTES

1. THE BINS SHOULD BE PROPERLY POSITIONED IN THE COLLECTION AREA ON THE DAY OF COLLECTION BEFORE 7 AM.
2. THE DRIVER IS NOT REQUIRED TO EXIT THE COLLECTION VEHICLE TO FACILITATE COLLECTION.
3. PROPERTY MANAGEMENT IS RESPONSIBLE FOR MOVING BINS DURING COLLECTION.
4. THE REGION WILL NOT BE RESPONSIBLE FOR EMPTYING BINS THAT ARE INACCESSIBLE TO THE COLLECTION VEHICLE.
5. PROPERTY MANAGEMENT MUST BE VISIBLE TO WASTE COLLECTION VEHICLE ON APPROACH TO SITE, OTHERWISE THE WASTE COLLECTION VEHICLE WILL NOT ENTER THE SITE.
6. PROPERTY MANAGEMENT WILL BE RESPONSIBLE FOR SAFELY MANEUVERING WASTE COLLECTION VEHICLES INTO AND/OR OUT OF, AS WELL AS AROUND THE SITE.
7. PROPERTY MANAGEMENT STAFF WILL BE RESPONSIBLE FOR MOVING BINS TO THE STAGING AREA AT THE TIME OF COLLECTION AND RETURNING TO STORAGE ROOM FOLLOWING COLLECTION.



NOTES:
1. Hoarding details to be determined following initial site inspection.
2. Private tree hoarding to be approved by Development & Design ; City tree hoarding to be approved by Community Services Dept.
3. Hoarding must be supplied, installed and maintained by the applicant throughout all phases of construction. **Inspection must be conducted by the Development and Design Division prior to removing any/all private hoarding.**
4. Do not allow water to collect and pond behind or within hoarding.
5. **T-bar supports are acceptable alternative to 4x4 posts. U-shaped metal supports will not be accepted.**
6. **Plywood** must be utilized for 'solid' hoarding. OSB/Chipboard will not be accepted for solid hoarding. Plywood sheets must be installed on "construction" side of frame.
7. Applicant is responsible to ensure utility locates are completed within city boulevard prior to installing framed hoarding.

TREE PRESERVATION HOARDING

SCALE: N.T.S DATE: June,2017

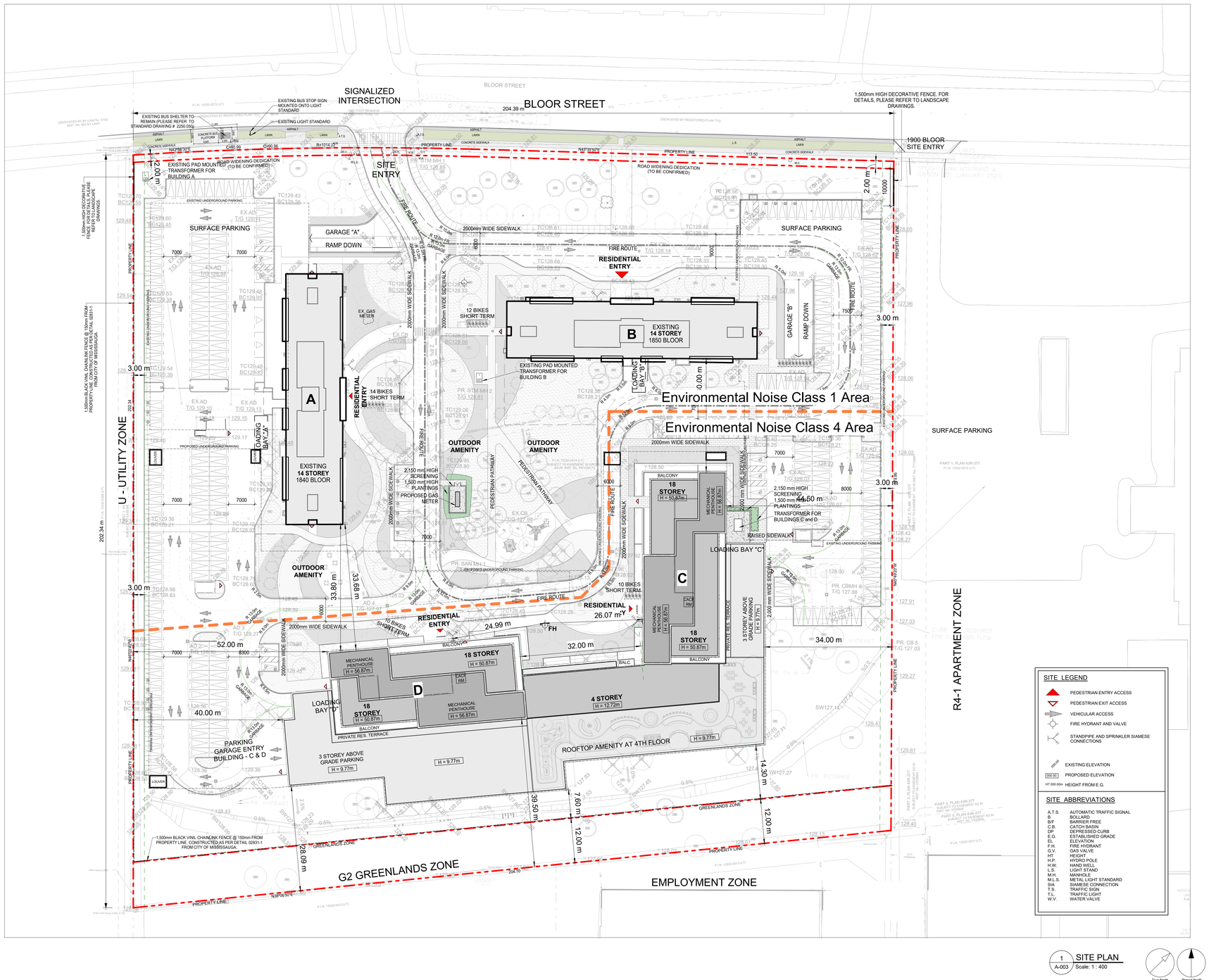
MISSISSAUGA

GENERAL NOTE:

i. I hereby certify that this drawing confirms in all respects to the site development plans Architect or Engineer's Signature (if applicable) and Professional seal
ii. The City of Mississauga requires that all working drawings submitted to the Building Division as part of an application for the issuance of a building permit shall be certified by the architect or engineer as being in conformity with the site development plan as approved by the City of Mississauga.
iii. All exterior lighting will be directed onto the site and will not infringe upon the adjacent properties.
iv. All rooftop mechanical units shall be screened from view by the applicant.
v. Parking spaces reserved for people with disabilities must be identified by a sign, installed at the applicant's expense, in accordance with the By-law Requirements and Building Code Requirements.
vi. The applicant will be responsible for ensuring that all plans confirm to Transport Canada's restrictions.
vii. Grades will be met with a 33% maximum slope at the property lines and within the site.
viii. All damaged areas are to be reinstated with topsoil and sod prior to the release of securities.
ix. Signage shown on the site development plans is for information purposes only. All signs will be subject to the provisions of Sign by-law 0054-2002, as amended, and a separate sign application will be required through the Building Division.
x. Any fencing adjacent to municipal lands is to be located 15 cm (6.0 in.) inside the property line.
xi. Only "shielded" lighting fixtures are permitted for all development, except for detached and semi-detached dwellings within 60 m (196.8 ft.) of a residentially zoned property and must confirm to the Engineer Certified Lighting Plan.
xii. The Engineer Certified Lighting Plan must be signed by the consulting Engineer.
xiii. The Owner covenants and agrees to construct and install "shielded" lighting fixtures on the subject lands, in conformity with the Site Plan and Engineer Certified Lighting Plan to the satisfaction of the City of Mississauga.
xiv. The applicant will be responsible for ensuring that all plans confirm to Transport Canada's restrictions.
xv. Where planting is to be located in landscaped areas on top of an underground parking structure, it is the responsibility of the applicant to arrange the coordination of the design of the underground parking structure with the Landscape Architect and the Consulting Engineering. Underground parking structures with landscaping area to be capable of supporting the following loads:
- 15 cm of drainage gravel plus 40 cm topsoil for sod
- 15 cm of drainage gravel plus 60 cm topsoil for shrubs
- 15 cm of drainage gravel plus 90 cm for trees

Or
- Prefabricated sheet drain system* with a compressive strength of 1003 Kpa plus 40 cm topsoil for sod
- Prefabricated sheet drain system* with a compressive strength of 1003 Kpa plus 60 cm topsoil for shrubs
- Prefabricated sheet drain system* with a compressive strength of 1003 Kpa plus 90 cm topsoil for trees
- * Terradrain 900 or approved equal

xvi. The structural design of any retaining wall over 0.6 m in height or any retaining wall located on a property line is to be shown on the Site Grading plan for this project and is to be approved by the Consulting Engineer for the project.
xvii. Continuous 15 cm high barrier type poured concrete curbing will be provided between all asphalt and landscaped areas throughout the site.
xviii. All utility companies will be notified for locates prior to the installation of the hoarding that lies within the site and within the limited of the City boulevard area.



SITE LEGEND

- PEDESTRIAN ENTRY ACCESS
- PEDESTRIAN EXIT ACCESS
- VEHICULAR ACCESS
- FIRE HYDRANT AND VALVE
- STANDPIPE AND SPRINKLER SIAMESE CONNECTIONS
- 000.00 EXISTING ELEVATION
- 000.00 PROPOSED ELEVATION
- HEIGHT FROM E.G.

SITE ABBREVIATIONS

A.T.S.	AUTOMATIC TRAFFIC SIGNAL
B	BOLLARD
B/F	BARRIER FREE
C.B.	CATCH BASIN
DP	DEPRESSED CURB
E.G.	ESTABLISHED GRADE
EL	ELEVATION
F.H.	FIRE HYDRANT
G.V.	GAS VALVE
HT	HEIGHT
H.P.	HYDRO POLE
H.W.	HAND WELL
L.S.	LIGHT STAND
M.H.	MANHOLE
M.L.S.	METAL LIGHT STANDARD
SA	SIAMESE CONNECTION
T.S.	TRAFFIC SIGN
T.L.	TRAFFIC LIGHT
W.V.	WATER VALVE

1 / A-003 SITE PLAN
Scale: 1 : 400

True North Project North

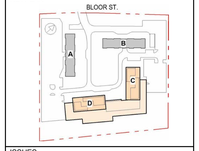
OWNER:
RANEE MANAGEMENT
4122 Bathurst St., Toronto, ON M3H 3P2
TEL: 416-756-3962

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KEYPLAN



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No.	DESCRIPTION	DATE
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ISSUED FOR COORDINATION AND REVIEW 2024-05-01

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55 St. Clair Avenue West | 7th Floor
Toronto | ON | M4V 2Y7 | Canada
T 416 596 1930 | F 416 596 0644
www.arcadis.com

PROJECT:
BLOOR
1840-1850 Bloor St.
CITY OF MISSISSAUGA, ON

LEGAL DESCRIPTION:
LOT 1
REGISTERED PLAN 775

PROJECT NO:
120303

OPA / ZBA No:
OZ 20-003 W3

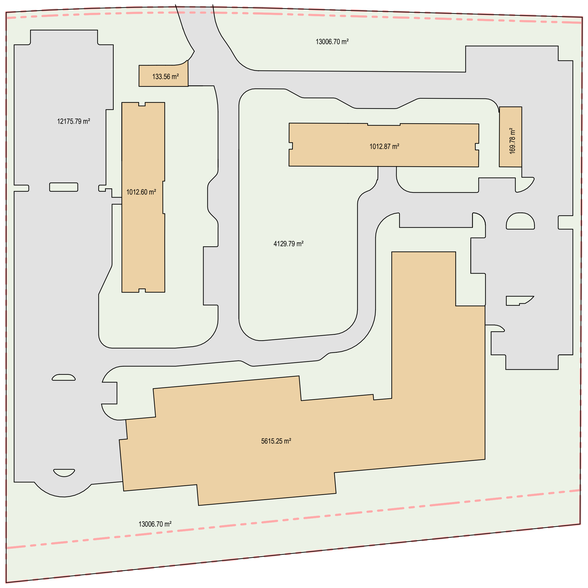
SHEET TITLE
CONCEPT SITE PLAN

SHEET NUMBER
A-003

ISSUE
2

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LOT COVERAGE



LOT COVERAGE DIAGRAM

- *BUILDING FOOTPRINT*
- *LANDSCAPE*
- *PAVED*

LOT COVERAGE		
Name	**Area**	**PERCENT**
BUILDING FOOTPRINT	7,944.06 m²	20%
LANDSCAPE	19,164.59 m²	49%
PAVED	12,175.79 m²	31%
TOTAL	39,284.44 m²	

PROPOSED UNIT MIX BY FLOOR LEVEL

Gross Floor Area (GFA)			GFA Zoning Deductions		GFA Amenity		GFA Zoning Residential	
			**Deductable Amenity area not included*		*Amenity area is Deductible in full*		*Amenity area not included*	
Level	***Area SF***	***Area m2***	***Area SF***	***Area m2***	***Area SF***	***Area m2***	***Area SF***	***Area m2***
MAIN ROOF - MPH	12,330 SF	1,145.52 m²	1,146 m²	1,145.52 m²	0 SF	0.00 m²	0 SF	0.00 m²
LEVEL 18	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 17	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 16	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 15	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 14	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 13	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 12	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 11	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 10	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 09	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 08	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 07	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 06	21,028 SF	1,953.60 m²	151 m²	151.44 m²	0 SF	0.00 m²	19,398 SF	1,802.16 m²
LEVEL 05	21,028 SF	1,953.60 m²	148 m²	148.20 m²	0 SF	0.00 m²	19,433 SF	1,805.40 m²
LEVEL 04	27,898 SF	2,591.78 m²	152 m²	151.60 m²	6,987 SF	649.13 m²	19,279 SF	1,791.05 m²
LEVEL 03	56,035 SF	5,205.78 m²	3,639 m²	3,639.49 m²	0 SF	0.00 m²	16,859 SF	1,566.28 m²
LEVEL 02	56,126 SF	5,214.29 m²	3,663 m²	3,663.38 m²	0 SF	0.00 m²	16,694 SF	1,550.91 m²
LEVLE 01	58,927 SF	5,474.50 m²	4,035 m²	4,035.31 m²	0 SF	0.00 m²	15,491 SF	1,439.19 m²
TOTAL AREA ABOVE GRADE:	505,713 SF	46,982.27 m²	14,752 m²	14,752.19 m²	6,987 SF	649.13 m²	339,934 SF	31,580.94 m²
Level	***Area SF***	***Area m2***	***Area SF***	***Area m2***	***Area SF***	***Area m2***	***Area SF***	***Area m2***
LEVEL P1	124,893 SF	11602.98 m²	124,893 SF	11602.98 m²	0 SF	0.00 m²	0 SF	0.00 m²
TOTAL AREA BELOW GRADE:	124,893 SF	11602.98 m²	124,893 SF	11602.98 m²	0 SF	0.00 m²	0 SF	0.00 m²

Gross Floor Area (GFA) TOTAL		GFA Zoning Deductions TOTAL		GFA Amenityl TOTAL	GFA Zoning Residential TOTAL	
630,606 SF	**58,585.25 m²**	**283,685 SF**	**26,355.17 m²**	**6,987 SF**	**649.13 m²**	**339,934 SF**	**31,580.94 m²**

AREA CHART REPESENTS AREAS FOR BUILDING C AND D AS ONE BUILDING.

GFA Zoning Residential TOTAL C	
169,867 SF	**15,781.13 m²**

GFA Zoning Residential TOTAL D	
170,068 SF	**15,799.81 m²**

Gross Floor Area / Zoning: MISSISSAUGA

Gross Floor Area (GFA) - Apartment Zone

means the sum of the areas of each ***storey*** *of a* ***building*** *above or below* ***established grade****, measured from the exterior of outside walls of the* ***building*** *including floor area occupied by interior walls*

but excluding any part of the ***building*** *used for*

- ***mechanical floor area****,*
- *stairwells, elevators,*
- ***motor vehicle*** *parking,*
- *bicycle parking,*
- *storage lockers,*
- *below-grade storage,*
- *any enclosed area used for the collection or storage of disposable or recyclable* ***waste*** *generated within the* ***building****,*
- *common facilities for the use of the residents of the* ***building****, a* ***day care*** *and* ***amenity area****..* (0174-2017)

Gross Floor Area (GFA) -

means the sum of the areas of each storey of a building, structure or part thereof, above or below established grade, excluding storage below established grade and a parking structure above or below established grade, measured from the exterior of outside walls, or from the midpoint of common walls.

* Interior floorplate exclusions (deductions) measured from the midpoint of common walls

AMENITY PROVIDED

Indoor Amenity		Outdoor Amenity	
(Zoning Deductions)			
Level	***Area m2***		***Area m2***
MAIN ROOF - MPH	0.00 m²		0.00 m²
LEVEL 18	0.00 m²		0.00 m²
LEVEL 17	0.00 m²		0.00 m²
LEVEL 16	0.00 m²		0.00 m²
LEVEL 15	0.00 m²		0.00 m²
LEVEL 14	0.00 m²		0.00 m²
LEVEL 13	0.00 m²		0.00 m²
LEVEL 12	0.00 m²		0.00 m²
LEVEL 11	0.00 m²		0.00 m²
LEVEL 10	0.00 m²		0.00 m²
LEVEL 09	0.00 m²		0.00 m²
LEVEL 08	0.00 m²		0.00 m²
LEVEL 07	0.00 m²		0.00 m²
LEVEL 06	0.00 m²		0.00 m²
LEVEL 05	0.00 m²		0.00 m²
LEVEL 04	649.13 m²		1,017.52 m²
LEVEL 03	0.00 m²		0.00 m²
LEVEL 02	0.00 m²		0.00 m²
GRADE	0.00 m²		2,628.55 m²
LEVLE 01	0.00 m²		0.00 m²
TOTAL:	649.13 m²		3,646.07 m²
AMENITY -TOTAL			
			4,295.20 m²

At Grade Outdoor Amenity for Building A		
Name	***Area***	***Area SF***
Part 2	935.20 m²	10,066 ft²
Grand total	935.20 m²	10,066 ft²

At Grade Outdoor Amenity for Building B		
Name	***Area***	***Area SF***
Part 5	438.19 m²	4,717 ft²
Part 1	497.01 m²	5,350 ft²
Grand total	935.20 m²	10,066 ft²

At Grade Outdoor Amenity for Building CD		
Name	***Area***	***Area SF***
Part 4	254.56 m²	2,740 ft²
Part 3	503.59 m²	5,421 ft²
Grand total	758.15 m²	8,161 ft²



	EXISTING BUILDINGS		NEW BUILDINGS	
	A	B	C	D
UNITS	167	167	218	215
AMENITY RATE	5.6 sq.m. PER UNIT	5.6 sq.m. PER UNIT	5.6 sq.m. PER UNIT	5.6 sq.m. PER UNIT
REQUIRED AMENITY	935.20 sq.m.	935.20 sq.m.	1,220.80 sq.m.	1,204.00 sq.m.
	EXISTING BUILDINGS		**NEW BUILDINGS**	
	1,870.40 sq.m.		**2,424.80 sq.m.**	
	TOTAL AMENITY REQUIRED			
	4,295.20 sq.m.			

PROPOSED UNIT MIX BY FLOOR LEVEL

Level - BUILIDNG C	Total	1B	2B	3B
LEVLE 01	6	0	4	2
LEVEL 02	9	2	5	2
LEVEL 03	9	2	5	2
LEVEL 04	12	5	5	2
LEVEL 05	13	6	6	1
LEVEL 06	13	6	6	1
LEVEL 07	13	6	6	1
LEVEL 08	13	6	6	1
LEVEL 09	13	6	6	1
LEVEL 10	13	6	6	1
LEVEL 11	13	6	6	1
LEVEL 12	13	6	6	1
LEVEL 13	13	6	6	1
LEVEL 14	13	6	6	1
LEVEL 15	13	6	6	1
LEVEL 16	13	6	6	1
LEVEL 17	13	6	6	1
LEVEL 18	13	6	6	1
TOTAL UNIT BY MIX	218	93	103	22

TOTAL UNIT COUNT C
218

(AMENITY @ 5.6 SM / UNIT = 1,220.80 sq.m.)

Level - BUILIDNG D	1B	1B	2B	3B
LEVLE 01	6	1	3	2
LEVEL 02	8	0	7	1
LEVEL 03	8	0	7	1
LEVEL 04	11	3	5	3
LEVEL 05	13	6	6	1
LEVEL 06	13	6	6	1
LEVEL 07	13	6	6	1
LEVEL 08	13	6	6	1
LEVEL 09	13	6	6	1
LEVEL 10	13	6	6	1
LEVEL 11	13	6	6	1
LEVEL 12	13	6	6	1
LEVEL 13	13	6	6	1
LEVEL 14	13	6	6	1
LEVEL 15	13	6	6	1
LEVEL 16	13	6	6	1
LEVEL 17	13	6	6	1
LEVEL 18	13	6	6	1
TOTAL UNIT BY MIX	215	88	106	21

TOTAL UNIT COUNT D
215

(AMENITY @ 5.6 SM / UNIT = 1,204.00 sq.m.)

Level - Building C+D	1B	1B	2B	3B
LEVLE 01	12	1	7	4
LEVEL 02	17	2	12	3
LEVEL 03	17	2	12	3
LEVEL 04	23	8	10	5
LEVEL 05	26	12	12	2
LEVEL 06	26	12	12	2
LEVEL 07	26	12	12	2
LEVEL 08	26	12	12	2
LEVEL 09	26	12	12	2
LEVEL 10	26	12	12	2
LEVEL 11	26	12	12	2
LEVEL 12	26	12	12	2
LEVEL 13	26	12	12	2
LEVEL 14	26	12	12	2
LEVEL 15	26	12	12	2
LEVEL 16	26	12	12	2
LEVEL 17	26	12	12	2
LEVEL 18	26	12	12	2
TOTAL UNIT BY MIX	433	181	209	43

TOTAL UNIT COUNT C + D
433

(AMENITY @ 5.6 SM / UNIT = 2,428.80 sq.m.)

EXISTING UNIT MIX BY BUILDING

BUILDING	***1 BEDROOM***	***2 BEDROOM***	***3 BEDROOM***	***TOTAL***
1840 BLOOR ST.	84 UNITS - 50%	57 UNITS - 34%	26 UNITS - 16 %	167 UNITS
1850 BLOOR ST.	83 UNITS - 50%	56 UNITS - 34%	28 UNITS - 16 %	167 UNITS
TOTAL:	167 UNITS - 50%	113 UNITS - 34%	54 UNITS - 16 %	334 UNITS

TOTAL EXISTING : **334 UNITS (AMENITY REQUIRED @ 5.6 SM / UNIT = 1,870.40 sq.m.)**

SITE TOTAL UNITS

BUILDING	***1 BEDROOM***	***2 BEDROOM***	***3 BEDROOM***	***TOTAL***
1840 BLOOR ST.	84 UNITS - 50 %	57 UNITS - 34 %	26 UNITS - 16 %	167 UNITS
1850 BLOOR ST.	83 UNITS - 50 %	56 UNITS - 34 %	28 UNITS - 16 %	167 UNITS
NEW BUILDING	181 UNITS - 41.8 %	209 UNITS - 48.3%	43 UNITS - 9.9 %	433 UNITS
TOTAL:	348 UNITS - 45.4 %	322 UNITS - 42.0 %	97 UNITS - 12.6 %	767 UNITS

TOTAL EXISTING + NEW : **767 UNITS (AMENITY @ 5.6 SM / UNIT = 4,295.20 sq.m.)**

ESTABLISHED GRADE

ESTABLISHED GRADE

Length no.	Begin Elev. el. 1	End Elev. el. 2	Length	(el 1 +el 2) / 2 x L
1	128.50	128.65	13.57	1744.76
2	128.65	128.50	7.05	906.45
3	128.65	128.50	52.00	6685.90
4	128.50	128.50	8.82	1133.37
5	128.50	128.50	25.60	3289.60
6	128.50	128.50	2.00	257.00
7	128.50	128.50	6.45	828.83
8	128.50	128.50	52.00	6682.00
9	128.50	128.50	22.70	2916.95
10	128.50	128.50	19.20	2467.20
11	128.50	128.50	10.39	1335.12
12	128.50	127.71	54.47	6977.88
13	127.71	128.15	53.68	6867.28
14	128.15	127.93	7.41	948.78
15	127.93	128.19	49.50	6338.97
16	128.19	128.41	7.41	950.70
17	128.41	128.50	25.52	3278.17
18	128.50	128.50	28.24	3628.84
		total:	446.01	57237.80
		EG:		**128.33**

SURVEY INFORMATION BASED ON PLAN OF SURVEY SHOWING
TOPOGRAPHICAL DATA OF LOT 1 REGISTERED PLAN 775
CITY OF MISSISSAUGA
REGIONAL MUNICIPALITY OF PEEL
PREPARED BY SPEIGHT, VAN NOSTRAND & GIBSON LIMITED
DATED MAY 22, 2019

ALL BUILDING HEIGHTS ARE DIMENSIONED FROM ESTABLISHED GRADE

PROPOSED PARKING

PROPOSED PARKING BUILDING A		
Level	*Count*	*EVSE*
LEVEL P1	11	0
BUILD. A - LEVEL P1 EXISTING	75	0
LEVLE 01	35	0
GRADE	71	0
A-R	**192**	**0**
GRADE	33	4
A-V	**33**	**4**
TOTAL	**225**	**4**

BUILDING A (167 UNITS) :

192 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
33 VISITORS @ PROPOSED RATIO: 0.2 / UNIT
0 EVSE RESIDENTIAL @ PROPOSED RATIO: 0.0%
4 EVSE VISITORS @ PROPOSED RATIO: 10.0%

PROPOSED PARKING BUILDING B		
Level	*Count*	*EVSE*
LEVEL P1	3	0
BUILD. B - LEVEL P1 EXISTING	99	0
LEVLE 01	42	0
GRADE	48	0
B-R	**192**	**0**
GRADE	33	4
B-V	**33**	**4**
TOTAL	**225**	**4**

BUILDING B (167 UNITS) :

192 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
33 VISITORS @ PROPOSED RATIO: 0.2 / UNIT
0 EVSE RESIDENTIAL @ PROPOSED RATIO: 0.0%
4 EVSE VISITORS @ PROPOSED RATIO: 10.0%

PROPOSED PARKING BUILDING C		
Level	*Count*	*EVSE*
LEVEL P1	155	0
LEVEL 02	47	47
LEVEL 03	49	3
C-R	**251**	**50**
GRADE	44	5
C-V	**44**	**5**
TOTAL	**295**	**55**

BUILDING C (218 UNITS) :

251 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
44 VISITORS @ PROPOSED RATIO: 0.2 / UNIT
50 EVSE RESIDENTIAL @ PROPOSED RATIO: 20.0%
5 EVSE VISITORS @ PROPOSED RATIO: 10.0%

PROPOSED PARKING BUILDING D		
Level	*Count*	*EVSE*
LEVEL P1	159	0
LEVEL 02	43	43
LEVEL 03	45	7
D-R	**247**	**50**
GRADE	43	5
D-V	**43**	**5**
TOTAL	**290**	**55**

BUILDING D (215 UNITS) :

247 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
43 VISITORS @ PROPOSED RATIO: 0.2 / UNIT
50 EVSE RESIDENTIAL @ PROPOSED RATIO: 20.0%
5 EVSE VISITORS @ PROPOSED RATIO: 10.0%

PROPOSED PARKING TOTAL BY LEVEL	
Level	*Count*
LEVEL 03	94
LEVEL 02	90
GRADE	272
LEVLE 01	77
BUILD. A - LEVEL P1 EXISTING	75
BUILD. B - LEVEL P1 EXISTING	99
LEVEL P1	328
TOTAL	**1035**

DESIGNATION TAG ABBREVATIONS

R - DENOTES RESIDENTIAL
V - DENOTES VISITOR
A/B/C/D - DENOTES BUILDING A/B/C/D

NOTES:

882 TOTAL RESIDENTIAL SPACES AT PROPOSED RATIO OF 1.15 / UNIT

153 TOTAL VISITORS SPACES AT PROPOSED RATIO 0.2 / UNIT

1035 TOTAL RESIDENTIAL AND VISITORS SPACES AT PROPOSED RATIO 1.35 / UNIT

EXISTING PARKING SPACES - SURFACE PARKING TO BE ADJUSTED AS PER PROPOSED

BUILDING	***TOTAL OUTDOOR***	***TOTAL INDOOR***	***TOTAL PARKING EXISTING***
A - 1840 BLOOR ST.	150 **SPACES**	75 **SPACES**	225 **SPACES**
B - 1850 BLOOR ST.	130 **SPACES**	99 **SPACES**	229 **SPACES**
TOTAL:	280 **SPACES**	174 **SPACES**	454 **SPACES**

RATIO: *EXISTING :* 1.36

PROPOSED BICYCLE PARKING

TOTAL RESIDENTIAL BIKE SPACES		RES LT	RES ST
Level	*Total Bike Spaces*	*Long Term RESIDENTIAL*	*Short Term RESIDENTIAL*
LEVLE 01	380	380	0
GRADE	66	0	66
TOTAL BIKE SPACES	**446**	**380**	**66**

STANDARD BICYCLE PARKING REQUIREMENTS

Long Term rate applied to C and D		LT	ST	TOTAL
Short Trerm rate applied to A, B, C and D	RATE	0.7	0.08	
BUILDING A		n/a	13	13
BUILDING B		n/a	13	13
BUILDING C		153	17	170
BUILDING D		151	17	168
	TOTAL	**303**	**61**	**364**

PROPOSED WASTE MANAGEMENT

WASTE MANAGEMENT REQUIREMENTS

Required Waste Management Bins for Building A							*Required Waste Management Area*			
Item:	*Ratio*	*Bin Type*	*Bin / Unit*	*Units*	*Total Bins*	*Round*	Item:	*Bins*	*sm / Bin **	*sm*
GARBAGE (compacted)	3 cubic yards/54 units	3cy-bin	1/54	167	3.1	3.0	Area for bulk items :	Existing condition		
RECYCLE (not compacted)	3 cubic yards/45 units	3cy-bin	1/45	167	3.7	4.0	Total Number of Bins:			
					Total Bins	7.0			Total	0.00

Required Waste Management Bins for Building D							*Required Waste Management Area*			
Item:	*Ratio*	*Bin Type*	*Bin / Unit*	*Units*	*Total Bins*	*Round*	Item:	*Bins*	*sm / Bin **	*sm*
GARBAGE (compacted)	3 cubic yards/54 units	3cy-bin	1/54	215	4.0	4.0	Area for bulk items :			10.00
RECYCLE (not compacted)	3 cubic yards/45 units	3cy-bin	1/45	215	4.8	5.0	Total Number of Bins:	9	6.00	54.00
					Total Bins	9.0			Total	64.00

Combined bins at Collection Point of Loding Bay D

G	7.0
R	9.0
Totoal Bins	16.0

Required Waste Management Bins for Building B							*Required Waste Management Area*			
Item:	*Ratio*	*Bin Type*	*Bin / Unit*	*Units*	*Total Bins*	*Round*	Item:	*Bins*	*sm / Bin **	*sm*
GARBAGE (compacted)	3 cubic yards/54 units	3cy-bin	1/54	167	3.1	3.0	Area for bulk items :	Existing condition		
RECYCLE (not compacted)	3 cubic yards/45 units	3cy-bin	1/45	167	3.7	4.0	Total Number of Bins:			
					Total Bins	7.0			Total	0.00

Required Waste Management Bins for Building C							*Required Waste Management Area*			
Item:	*Ratio*	*Bin Type*	*Bin / Unit*	*Units*	*Total Bins*	*Round*	Item:	*Bins*	*sm / Bin **	*sm*
GARBAGE (compacted)	3 cubic yards/54 units	3cy-bin	1/54	218	4.0	4.0	Area for bulk items :			10.00
RECYCLE (not compacted)	3 cubic yards/45 units	3cy-bin	1/45	218	4.8	5.0	Total Number of Bins:	9	6.00	54.00
					Total Bins	9.0			Total	64.00

Combined bins at Collection Point of Loding Bay C

G	7.0
R	9.0
Totoal Bins	16.0

NOTES:

1. GARBAGE ROOM FOR EXISTING BUILDING A AND B AS PER EXISTING CONDITION
2. GARBAGE PICKUP FOR BUILDING A & D AT LOADING AREA "D"
3. GARBAGE PICKUP FOR BUILDING B & C AT LOADING AREA "C"
4. GARBAGE BINS WILL BE TRANSPORTED TO LOADING AREAS ON PICKUP DAY
5. BUILDING A AND B TO MENTAIN EXISTING CHUTE AND COMPACTOR SYSTEM
6. BUILDING C TO HAVE DUAL CHUTE FOR SOLID WASTE COMPACTION AND RECYCLING
7. BUILDING D TO HAVE DUAL CHUTE FOR SOLID WASTE COMPACTION AND RECYCLING

OWNER:
RANEE MANAGEMENT
4122 Bathurst St., Toronto, ON M3H 3P2
TEL: 416-756-3962

APPLICANT:
Bousfields Inc.
3 Church Street, Suite 200
Toronto, ON, Canada M5E 1M2
Tel: 416-947-9744

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KEYPLAN



ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR RE-ZONING	2020/03/13
2	RE-ISSUED FOR OPA & ZBA	2022/11/16

ISSUED FOR COORDINATION AND REVIEW 2024-05-01

APPROVAL STAMP

ARCADIS
ARCADIS ARCHITECTS (CANADA) INC.
55 St. Clair Avenue West | 7th Floor
Toronto | ON | M4V 2Y7 | Canada
T 416 596 1930 | F 416 596 0644
www.arcadis.com

PROJECT:
BLOOR
1840-1850 Bloor St.
CITY OF MISSISSAUGA, ON

LEGAL DESCRIPTION:
LOT 1
REGISTERED PLAN 775

PROJECT NO:
120303

OPA / ZBA No:
OZ 20-003 W3

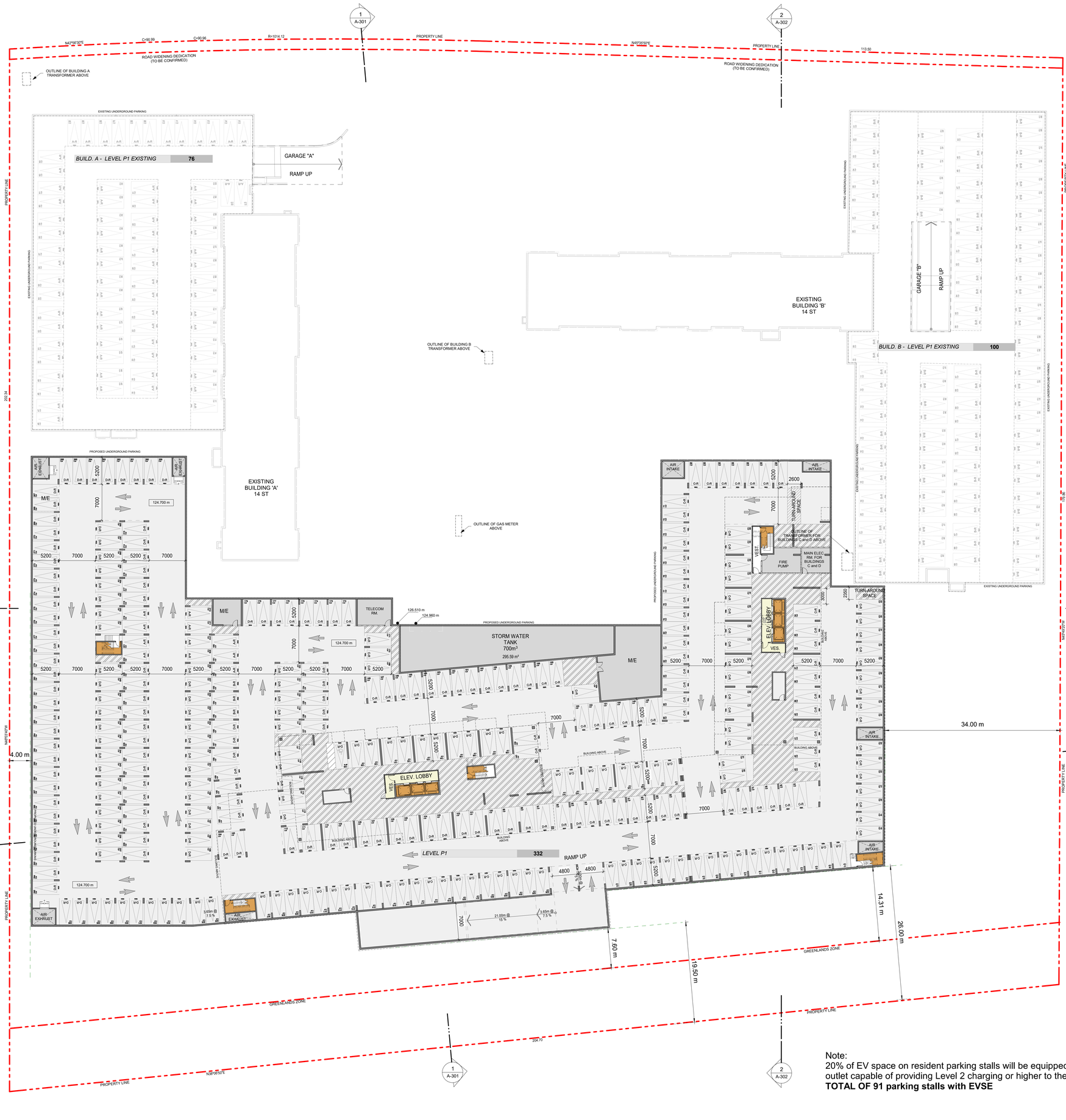
SHEET TITLE
PROJECT STATISTICS

SHEET NUMBER
A-004

ISSUE
2

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Check



Note:
20% of EV space on resident parking stalls will be equipped with an energized outlet capable of providing Level 2 charging or higher to the parking space.
TOTAL OF 91 parking stalls with EVSE

1 A-102 PARKING LEVEL P1
Scale: 1 : 250

True North | Project North

PROPOSED PARKING BUILDING A

Level	Count
LEVEL P1	11
BUILD. A - LEVEL P1 EXISTING	75
LEVLE 01	35
GRADE	71
A-R	**192**
GRADE	33
A-V	**33**
TOTAL	**225**

BUILDING A (167 UNITS) :

192 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
33 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING BUILDING B . OLD

Level	Count
LEVEL P1	4
BUILD. B - LEVEL P1 EXISTING	100
LEVLE 01	43
GRADE	49
B-R	**196**
GRADE	35
B-V	**35**
TOTAL	**231**

BUILDING B (167 UNITS) :

192 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
33 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING BUILDING C .OLD

Level	Count
LEVEL P1	156
LEVEL 02	48
LEVEL 03	50
C-R	**254**
GRADE	45
C-V	**45**
TOTAL	**299**

BUILDING C (218 UNITS) :

251 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
44 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING BUILDING D . OLD

Level	Count
LEVEL P1	160
LEVEL 02	44
LEVEL 03	46
D-R	**250**
GRADE	44
D-V	**44**
TOTAL	**294**

BUILDING D (215 UNITS) :

248 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
43 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING TOTAL BY LEVEL

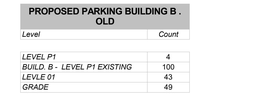
Level	Count
LEVEL 03	94
LEVEL 02	90
GRADE	272
LEVLE 01	77
BUILD. A - LEVEL P1 EXISTING	75
BUILD. B - LEVEL P1 EXISTING	99
LEVEL P1	328
TOTAL	**1035**

1,036 SITE TOTAL SPACES @ PROPOSED RATIO: 1.35 / UNIT

883 TOTAL RESIDENTIAL SPACES @ PROPOSED RATIO OF 1.15 / UNIT

153 TOTAL VISITORS SPACES @ PROPOSED RATIO 0.2 / UNIT

LEGEND - PARKING SPACE DIMENSIONS



* 0.15m INCREASE ON EACH SIDE WITH OBSTRUCTION MORE THAN 1.0m FROM THE FRONT OR REAR OF THE PARKING SPACE

REGULAR PARKING SPACE

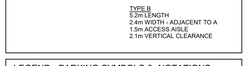
5.2m LENGTH
2.6m WIDTH*
2.0m VERTICAL CLEARANCE

BARRIER-FREE PARKING SPACE

TYPE A
5.2m LENGTH
3.4m WIDTH - ADJACENT TO A 1.5m ACCESS AISLE
2.1m VERTICAL CLEARANCE

TYPE B
5.2m LENGTH
2.4m WIDTH - ADJACENT TO A 1.5m ACCESS AISLE
2.1m VERTICAL CLEARANCE

LEGEND - PARKING SYMBOLS & NOTATIONS



DESIGNATION TAG ABBREVIATIONS

R	- DENOTES RESIDENTIAL
V	- DENOTES VISITOR
A/B/C/D	- DENOTES BUILDING A/B/C/D
TYP	- DENOTES TYPICAL CITY OF MISSISSAUGA SPACE SIZE
BF	- DENOTES BARRIER FREE CITY OF MISSISSAUGA SPACE SIZE

OWNER:
RANEE MANAGEMENT
4122 Bathurst St., Toronto, ON M3H 3P2
TEL: 416-756-3962

APPLICANT:
Bousfields Inc.
3 Church Street, Suite 200
Toronto, ON, Canada M5E 1M2
Tel: 416-947-9744

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ISSUES

No.	DESCRIPTION	DATE
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2	RE-ISSUED FOR OPA & ZBA	2022/11/16

ISSUED FOR COORDINATION AND REVIEW 2024-05-01

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www.arcadis.com

PROJECT:
BLOOR
1840-1850 Bloor St.
CITY OF MISSISSAUGA, ON

LEGAL DESCRIPTION:
LOT 1
REGISTERED PLAN 775

PROJECT NO:
120303

OPA / ZBA No:
OZ 20-003 W3

SHEET TITLE
UNDERGROUND PARKING PLAN - LEVEL P1

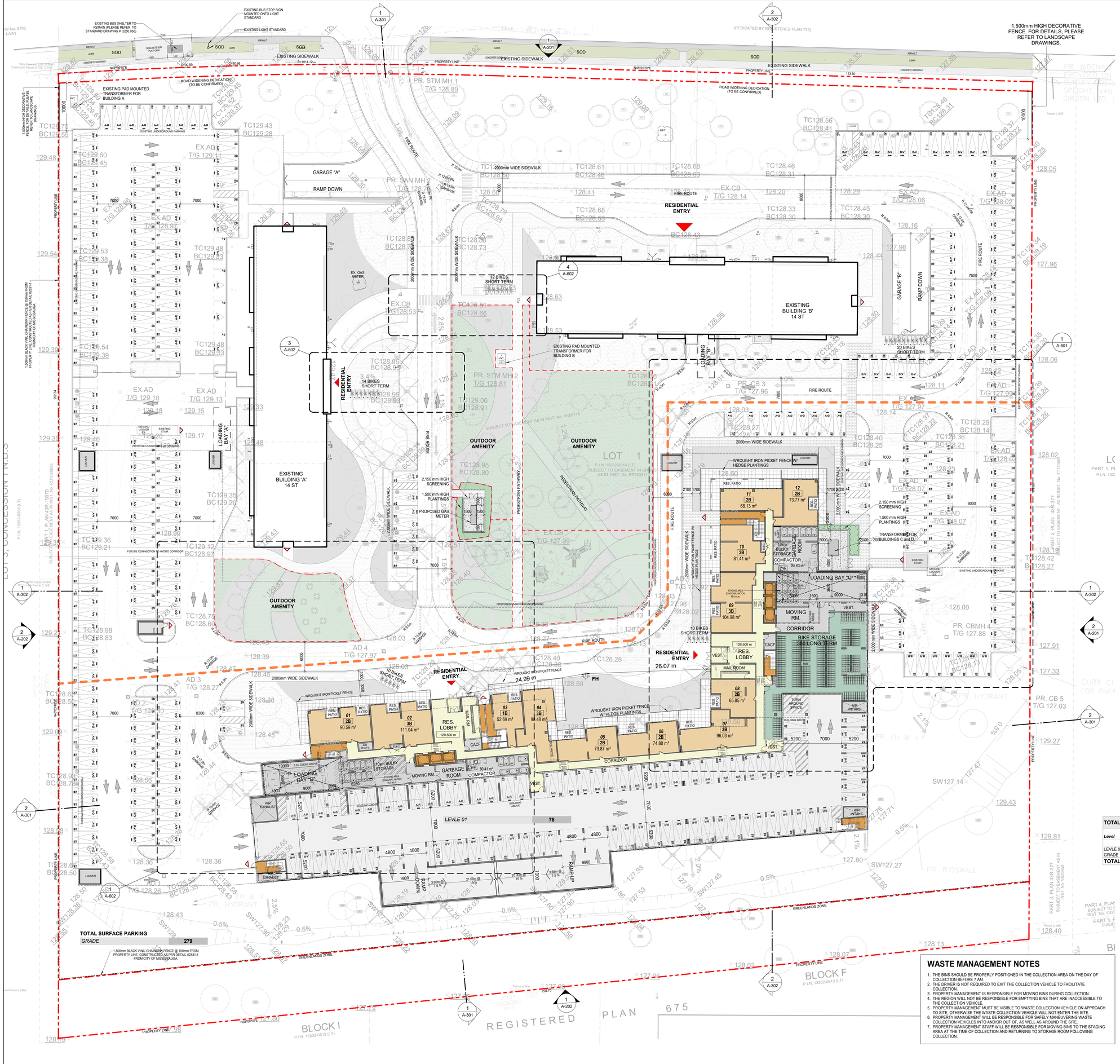
SHEET NUMBER
A-102

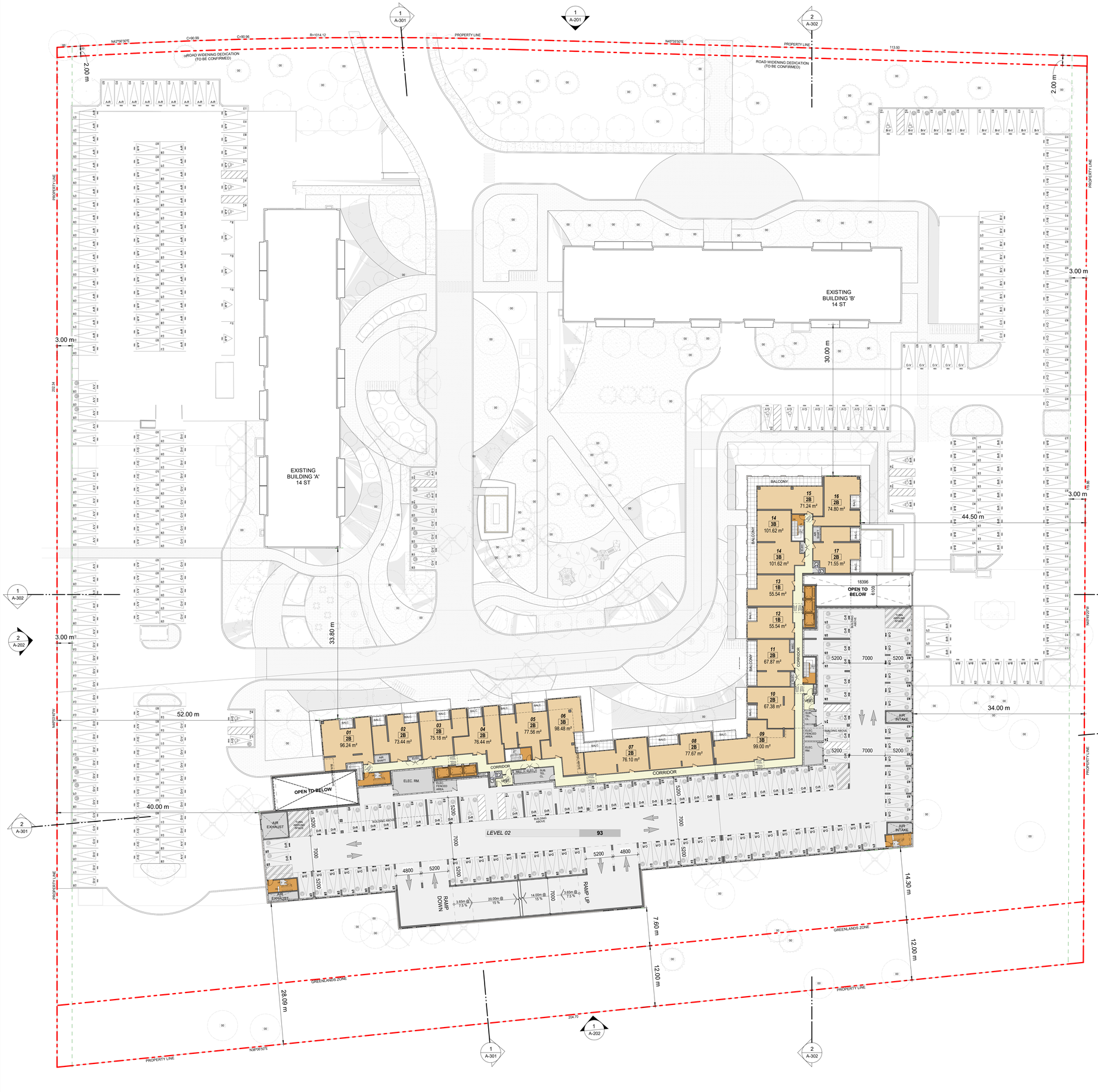
ISSUE
2

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Users

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EXISTING BUS SHELTER TO REMAIN (PLEASE REFER TO STANDARD DRAWING # 2250.050)
EXISTING BUS STOP SIGN MOUNTED ONTO LIGHT STANDARD
EXISTING LIGHT STANDARD
EXISTING SIDEWALK
PROPERTY LINE
ROAD WIDENING DEDICATION (TO BE CONFIRMED)
1,500mm HIGH DECORATIVE FENCE. FOR DETAILS, PLEASE REFER TO LANDSCAPE DRAWINGS.
EXISTING PAD MOUNTED TRANSFORMER FOR BUILDING A
EXISTING PAD MOUNTED TRANSFORMER FOR BUILDING B
GARAGE "A"
RAMP DOWN
GARAGE "B"
RAMP DOWN
RESIDENTIAL ENTRY
EXISTING BUILDING 'A' 14 ST
EXISTING BUILDING 'B' 14 ST
OUTDOOR AMENITY
OUTDOOR AMENITY
OUTDOOR AMENITY
2000mm WIDE SIDEWALK
FIRE ROUTE
LOADING BAY 'A'
LOADING BAY 'B'
12 BIKES SHORT TERM
14 BIKES SHORT TERM
20 BIKES SHORT TERM
10 BIKES SHORT TERM
EX. GAS METER
PROPOSED GAS METER
PROPOSED UNDERGROUND PARKING
EXISTING UNDERGROUND PARKING
FUTURE CONNECTION TO HYDRO CORRIDOR
PEDESTRIAN PATHWAY
2,150 mm HIGH SCREENING
1,500 mm HIGH PLANTINGS
WROUGHT IRON PICKET FENCE W/ HEDGE PLANTINGS
WROUGHT IRON PICKET FENCE
1,500mm BLACK VINYL CHAINLINK FENCE @ 150mm FROM PROPERTY LINE, CONSTRUCTED AS PER DETAIL 02831-1 FROM CITY OF MISSISSAUGA
LOT 1
P.I.N. 13332-0514 (LT)
SUBJECT TO EASEMENT IN GROSS AS IN INST. No. PR123911
BLOCK I
P.I.N. 13332-0512 (LT)
BLOCK F
P.I.N. 13332-0513 (LT)
REGISTERED PLAN 675
GREENLANDS ZONE
LEVLE 01
78
RES. LOBBY
128.500 m
MAIL RM.
MOVING RM.
GARBAGE ROOM
COMPACTOR
BULKY STORAGE
BIKE STORAGE 580 LONG TERM
CORRIDOR
MECH. ROOM
TURN AROUND SPACE
LOUNGE
RES. PATIO
AIR EXHAUST
AIR INTAKE
EXHAUST
RAMP UP
RAMP DOWN
EXISTING STAIR
GROUND LOUVER EX.
LOUVER
GROUND LOUVER
EXISTING STAIR
PROPOSED UNDERGROUND PARKING
EXISTING UNDERGROUND PARKING
PROPERTY LINE
FIRE ROUTE
1.00m FIRE ROUTE
2000mm WIDE SIDEWALK
2000mm WIDE SIDEWALK
2000mm WIDE SIDEWALK



PROPOSED PARKING BUILDING A

Level	Count
LEVEL P1	11
BUILD. A - LEVEL P1 EXISTING	75
LEVLE 01	35
GRADE	71
A-R	**192**
GRADE	33
A-V	**33**
TOTAL	**225**

BUILDING A (167 UNITS) :

192 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
33 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING BUILDING B . OLD

Level	Count
LEVEL P1	4
BUILD. B - LEVEL P1 EXISTING	100
LEVLE 01	43
GRADE	49
B-R	**196**
GRADE	35
B-V	**35**
TOTAL	**231**

BUILDING B (167 UNITS) :

192 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
33 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING BUILDING C .OLD

Level	Count
LEVEL P1	156
LEVEL 02	48
LEVEL 03	50
C-R	**254**
GRADE	45
C-V	**45**
TOTAL	**299**

BUILDING C (218 UNITS) :

251 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
44 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING BUILDING D . OLD

Level	Count
LEVEL P1	160
LEVEL 02	44
LEVEL 03	46
D-R	**250**
GRADE	44
D-V	**44**
TOTAL	**294**

BUILDING D (215 UNITS) :

248 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
43 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING TOTAL BY LEVEL

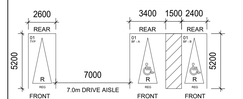
Level	Count
LEVEL 03	94
LEVEL 02	90
GRADE	272
LEVLE 01	77
BUILD. A - LEVEL P1 EXISTING	75
BUILD. B - LEVEL P1 EXISTING	99
LEVEL P1	328
TOTAL	**1035**

1,036 SITE TOTAL SPACES @ PROPOSED RATIO: 1.35 / UNIT

883 TOTAL RESIDENTIAL SPACES @ PROPOSED RATIO OF 1.15 / UNIT

153 TOTAL VISITORS SPACES @ PROPOSED RATIO 0.2 / UNIT

LEGEND - PARKING SPACE DIMENSIONS



* 0.15m INCREASE ON EACH SIDE WITH OBSTRUCTION MORE THAN 1.0m FROM THE FRONT OR REAR OF THE PARKING SPACE

REGULAR PARKING SPACE

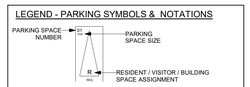
5.2m LENGTH
2.6m WIDTH*
2.0m VERTICAL CLEARANCE

BARRIER-FREE PARKING SPACE

TYPE A
5.2m LENGTH
3.4m WIDTH - ADJACENT TO A 1.5m ACCESS AISLE
2.1m VERTICAL CLEARANCE

TYPE B
5.2m LENGTH
2.4m WIDTH - ADJACENT TO A 1.5m ACCESS AISLE
2.1m VERTICAL CLEARANCE

LEGEND - PARKING SYMBOLS & NOTATIONS



DESIGNATION TAG ABBREVIATIONS

R	- DENOTES RESIDENTIAL
V	- DENOTES VISITOR
A/B/C/D	- DENOTES BUILDING A/B/C/D
TYP	- DENOTES TYPICAL CITY OF MISSISSAUGA SPACE SIZE
BF	- DENOTES BARRIER FREE CITY OF MISSISSAUGA SPACE SIZE

LEVEL 2 - UNIT MIX

Building C

1B	2
2B	5
3B	2
	9

Building D

2B	7
3B	1
	8
UNIT TOTAL COUNT	**17**

1 A-104 — 2ND FLOOR PLAN - LEVEL 02
Scale: 1 : 250

True North / Project North

OWNER:
RANEE MANAGEMENT
4122 Bathurst St., Toronto, ON M3H 3P2
TEL: 416-756-3962

APPLICANT:
Bousfields Inc.
3 Church Street, Suite 200
Toronto, ON, Canada M5E 1M2
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www.arcadis.com

PROJECT:
BLOOR
1840-1850 Bloor St.
CITY OF MISSISSAUGA, ON

LEGAL DESCRIPTION:
LOT 1
REGISTERED PLAN 775

PROJECT NO:
120303

OPA / ZBA No:
OZ 20-003 W3

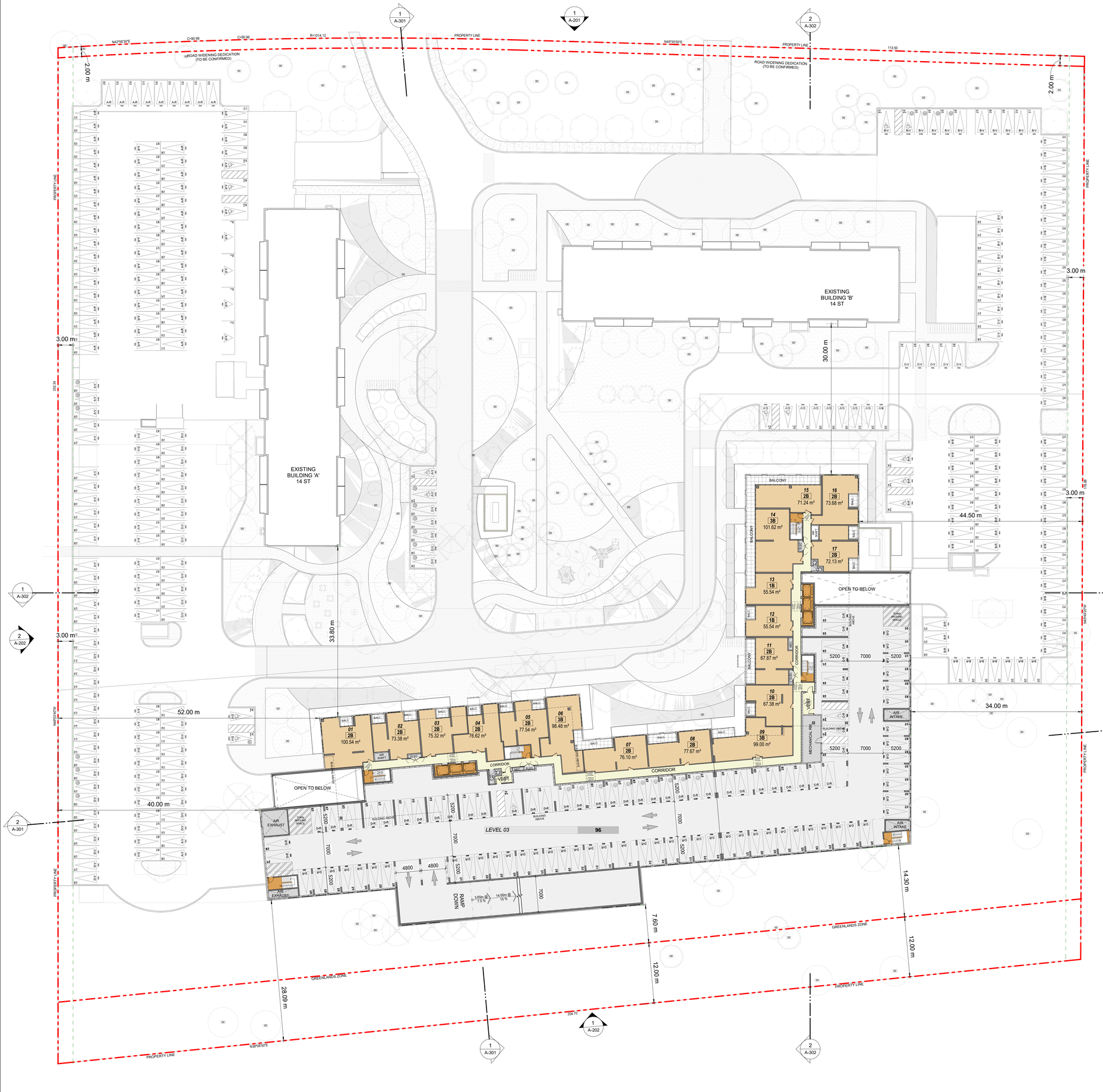
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LEVEL 2 FLOOR PLAN

SHEET NUMBER
A-104

ISSUE
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Date Plotted: 2024-05-01 12:09:04 PM



PROPOSED PARKING BUILDING A

Level	Count
LEVEL P1	11
BUILD. A - LEVEL P1 EXISTING	75
LEVLE 01	35
GRADE	71
A-R	**192**
GRADE	33
A-V	**33**
TOTAL	**225**

BUILDING A (167 UNITS) :

192 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
33 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING BUILDING B . OLD

Level	Count
LEVEL P1	4
BUILD. B - LEVEL P1 EXISTING	100
LEVLE 01	43
GRADE	49
B-R	**196**
GRADE	35
B-V	**35**
TOTAL	**231**

BUILDING B (167 UNITS) :

192 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
33 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING BUILDING C .OLD

Level	Count
LEVEL P1	156
LEVEL 02	48
LEVEL 03	50
C-R	**254**
GRADE	45
C-V	**45**
TOTAL	**299**

BUILDING C (218 UNITS) :

251 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
44 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING BUILDING D . OLD

Level	Count
LEVEL P1	160
LEVEL 02	44
LEVEL 03	46
D-R	**250**
GRADE	44
D-V	**44**
TOTAL	**294**

BUILDING D (215 UNITS) :

248 RESIDENTIAL @ PROPOSED RATIO: 1.15 / UNIT
43 VISITORS @ PROPOSED RATIO: 0.2 / UNIT

PROPOSED PARKING TOTAL BY LEVEL

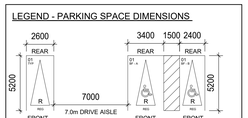
Level	Count
LEVEL 03	94
LEVEL 02	90
GRADE	272
LEVLE 01	77
BUILD. A - LEVEL P1 EXISTING	75
BUILD. B - LEVEL P1 EXISTING	99
LEVEL P1	328
TOTAL	**1035**

1,036 SITE TOTAL SPACES @ PROPOSED RATIO: 1.35 / UNIT

883 TOTAL RESIDENTIAL SPACES @ PROPOSED RATIO OF 1.15 / UNIT

153 TOTAL VISITORS SPACES @ PROPOSED RATIO 0.2 / UNIT

LEGEND - PARKING SPACE DIMENSIONS



* 0.15m INCREASE ON EACH SIDE WITH OBSTRUCTION MORE THAN 1.0m FROM THE FRONT OR REAR OF THE PARKING SPACE

REGULAR PARKING SPACE

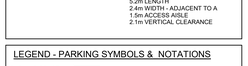
5.2m LENGTH
2.6m WIDTH*
2.0m VERTICAL CLEARANCE

BARRIER-FREE PARKING SPACE

TYPE A
5.2m LENGTH
3.4m WIDTH - ADJACENT TO A 1.5m ACCESS AISLE
2.1m VERTICAL CLEARANCE

TYPE B
5.2m LENGTH
2.4m WIDTH - ADJACENT TO A 1.5m ACCESS AISLE
2.1m VERTICAL CLEARANCE

LEGEND - PARKING SYMBOLS & NOTATIONS



DESIGNATION TAG ABBREVATIONS

R - DENOTES RESIDENTIAL
V - DENOTES VISITOR
A/B/C/D - DENOTES BUILDING A/B/C/D
TYP - DENOTES TYPICAL CITY OF MISSISSAUGA SPACE SIZE
BF - DENOTES BARRIER FREE CITY OF MISSISSAUGA SPACE SIZE

LEVEL 3 - UNIT MIX

Building C

1B	2
2B	5
3B	2
	9

Building D

2B	7
3B	1
	8

UNIT TOTAL COUNT **17**

1 A-105 — 3RD FLOOR - LEVEL 03
Scale: 1 : 250

True North | Project North

OWNER:
RANEE MANAGEMENT
4122 Bathurst St., Toronto, ON M3H 3P2
TEL: 416-756-3962

APPLICANT:
Bousfields Inc.
3 Church Street, Suite 200
Toronto, ON, Canada M5E 1M2
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PROJECT:
BLOOR
1840-1850 Bloor St.
CITY OF MISSISSAUGA, ON

LEGAL DESCRIPTION:
LOT 1
REGISTERED PLAN 775

PROJECT NO:
120303

OPA / ZBA No:
OZ 20-003 W3

SHEET TITLE
LEVEL 3 FLOOR PLAN

SHEET NUMBER
A-105

ISSUE
2

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Date Plotted: 10am

Appendix B: November 2019 Terms of Reference Letter

November 21, 2019

Jekaterina Vassilyev
City of Mississauga Traffic Review
300 City Centre Drive
Mississauga, Ontario
(905) 615 3200 ext. 5798
jekaterina.vassilyev@mississauga.ca

RE: TERMS OF REFERENCE FOR TRANSPORTATION STUDY
1840-1850 BLOOR STREET, CITY OF MISSISSAUGA

Dear Ms.Vassilyev:

BA Group has prepared the following terms of reference for your review for the site known as 1840-1850 Bloor Street in the City of Mississauga.

Introduction

BA Group is retained to provide transportation consulting services related to the proposed development of lands municipally known as 1840-1850 Bloor Street in the City of Mississauga. The site is generally bounded by Bloor Street to the north, an apartment building to the east (Lenworth Towers, 1900 Bloor Street), an industrial building to the south (Wajax Industrial Solutions, 3280 Wharton Way) and a hydro corridor to the west.

The existing site consists of two apartment buildings for a total of 334 residential units. **Figure 1** illustrates the existing site context.

The client, Ranee Management, is proposing to construct two new 18-storey apartment building for a total of 433 new residential units (Buildings 'C' and 'D' in the concept plan). **Figure 2** illustrates the preliminary development concept plan.

The site is subject to Zoning By-law Amendments which include conditions to be satisfied prior to development. This letter summarizes the proposed Terms of Reference for the Transportation Study that seeks to satisfy these conditions.

Background

The City of Mississauga provided transportation-related pre-submission comments in a project status report dated August 21, 2019. The following sections include the consideration of these comments and describe the proposed study area, analysis methodology and key analysis parameters.

Transportation Impact Study

The scope for the Transportation Impact Study has been established in consultation with the City of Mississauga and the Region of Peel. The study will be completed in accordance with the Region of Peel and the City of Mississauga's Traffic Impact Study Guidelines.

1. Study Area

Figure 3 illustrates the proposed study area for the Transportation Impact Study including the following intersections:

- Bloor Street / Bridgewood Drive / Site Driveway (signalized);
- Bloor Street / Fieldgate Drive (signalized);

Traffic data collection is planned for October 2019 and includes pedestrians, cyclists, buses, heavy vehicles and passenger vehicles. Signal timing plans for signalized intersections will be obtained from the City of Mississauga.

2. Analysis Periods

Traffic operations analysis will be completed for the following peak hours:

- Weekday morning peak hour; and
- Weekday afternoon peak hour.

3. Horizon Years

The following analysis scenarios will be considered:

- 2019 existing conditions;
- 2024 future background conditions with corridor growth and area background development traffic (5-year horizon); and
- 2024 future total conditions with the full build-out of the site development (5-year horizon).

4. Background Growth Allowances

Historical traffic volumes on Fieldgate Drive and Bloor Street will be examined to determine traffic growth on these corridors.

Traffic generated by background developments in proximity to the site will be considered based on discussions with City of Mississauga staff.

5. Trip Generation

A review of vehicle trip generation rates at the existing apartment buildings on-site will be conducted. These rates will be compared with other BA Group archived data and the trip rates provided by the ITE Trip Generation Manual (10th Edition) to develop a reasonable trip forecast for the proposed site.

6. Trip Distribution

Travel patterns for residential land uses will be based on the trip distribution observed for the existing apartment buildings on-site and the data provided by Transportation Tomorrow Survey.

7. Operations Analysis

Traffic operations analysis will be completed using Synchro 9 analysis software, based on Highway Capacity Manual (HCM) 2000 methodology.

Existing signal timings will be adopted for the analysis of existing conditions. If changes to the signal timings are proposed under future background or future total conditions, a summary of the proposed adjustments will be provided.

Other parameters will be based on the requirements of the Region of Peel and City of Mississauga's Traffic Impact Study Guidelines.

8. Vehicle Parking, Bicycle Parking and Loading Review

The site's parking, loading and bicycle parking requirements with respect to the prevailing Zoning By-law will be reviewed and discussed.

Transportation Demand Management Strategy

A Transportation Demand Management (TDM) strategy will be prepared based on the Region of Peel's *Transportation Demand Management Implementation Plan 2018-2022*. The TDM strategy will include a description of potential TDM measures to be confirmed with the Site Plan Amendment application.

Parking Study

Technical rationale for a reduced resident parking supply for the site will be provided. Tasks will include:

- Conducting parking demand surveys at existing apartment buildings to determine the existing level of parking utilization and to use the data as a proxy for estimating resident parking demand for the proposed new residential uses.
- Other parking demand surveys conducted by BA Group in the GTA for apartment buildings with a similar public transit context will be referenced.
- Determine the proposed site's resident parking demand.

Please do not hesitate to contact our office with any questions or comments.

Sincerely,

Margaret Briegmann, P.Eng.
Associate

Cc. Nathan Yau

ATTACHMENT A:
Figures

BA Consulting Group Ltd.
300 – 45 St. Clair Ave. W
Toronto ON M4V 1K9
TEL 416 961 7110
EMAIL bagroup@bagroup.com



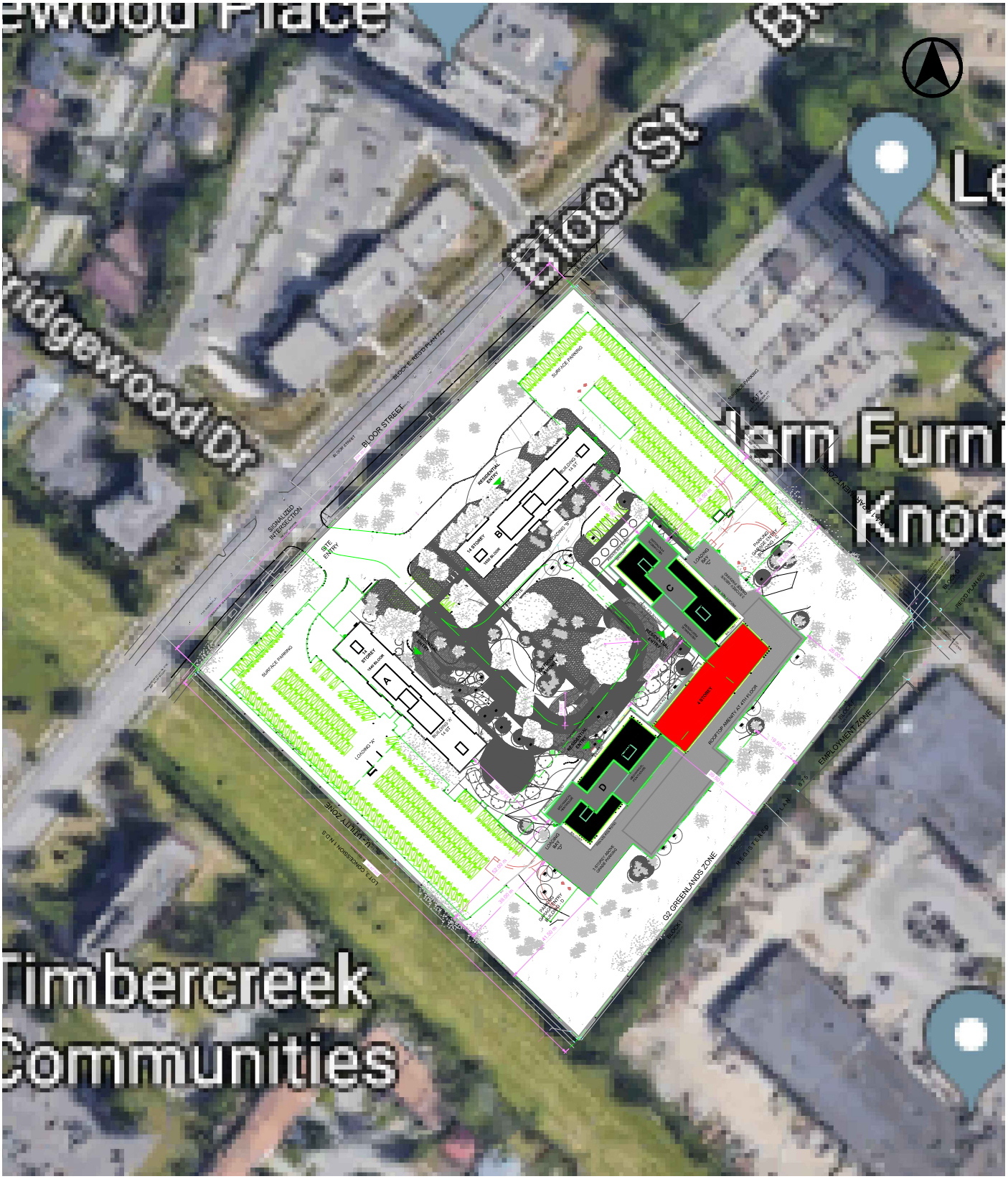
Date Plotted: November 22, 2019 Filename: P:\80\15\01\Graphics\CAD\Fig01-01-SL.dwg

SITE LOCATION

BA Group

1840-1850 Bloor Street
8015-01 November 2019

Figure 1



Date Plotted: November 22, 2019 Filename: P:\80\15\01\Graphics\CAD\Fig02-01-SC.dwg

PRELIMINARY DEVELOPMENT PLAN

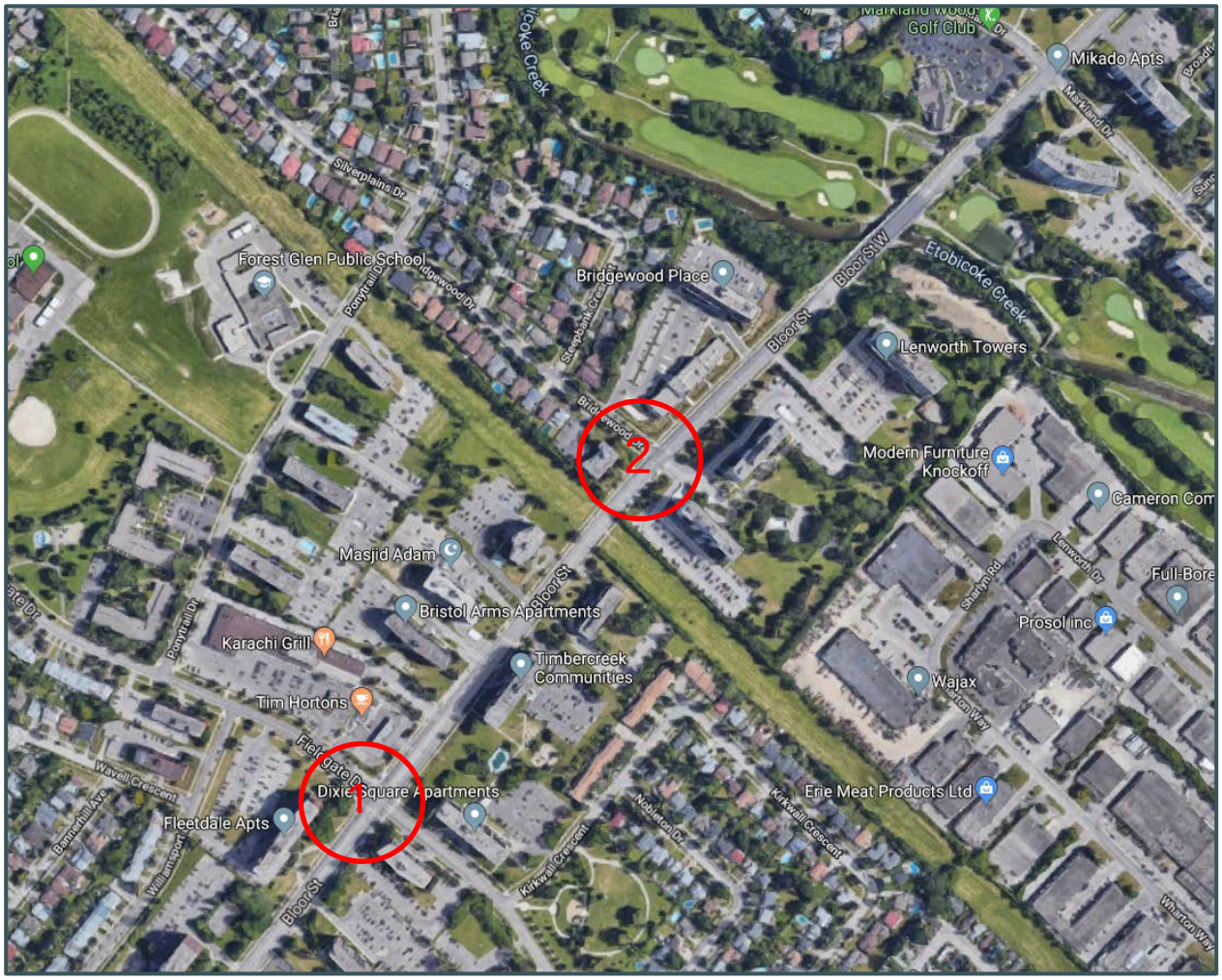
BA Group

1840-1850 Bloor Street
8015-01 November 2019

Figure 2

FIGURE 3: STUDY AREA INTERSECTIONS

1. Bloor Street / Fieldgate Drive
2. Bloor Street / Bridgewood Drive / Site Access



Appendix C: Signed Certification Form

Appendix A

Certification Form

Individuals submitting reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Mississauga's Official Plan, Transportation Master Plan, and Transportation Impact Study Guidelines.

By submitting the attached report (and any associated documents) and signing this document, I acknowledge that:

- I have reviewed and have a sound understanding of the objectives, needs, and requirements of the City of Mississauga's Official Plan, Transportation Master Plan, and the Transportation Impact Study Guidelines as they apply to this submission;
- I have sound knowledge of industry standard practices pertaining to the preparation of development-related transportation study reports;
- I have substantial experience (more than five years) in completing development-related transportation studies and strong background knowledge of the transportation planning and engineering principles underpinning these studies; and
- I am registered as a Professional Engineer (P.Eng.), Licensed Engineering Technologist (LET), Certified Engineering Technologist (C.E.T.), or Registered Professional Planner (RPP) in good standing in the Province of Ontario with specific training in transportation planning and engineering.

Dated at Toronto this 14th day of March, 2025.

Name:	Margaret Briegmann, P.Eng., Consulting Engineer
Professional Title:	Principal
Signature:	

Office Contact Information (Please Print)

Address:	95 St. Clair W, Suite 1000
City/Postal Code:	Toronto, ON M4V 1N6
Telephone/Extension:	416-961-7110 X148
E-mail Address:	briegmann@bagroup.com

Appendix D: Turning Movement Counts

Spectrum

Turning Movement Count
Location Name: BLOOR STREET & BRIDGEWOOD DRIVE / SITE DRIVEWAY
Date: Thu, Jan 23, 2025 Deployment Lead: Rey Fernandez

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Turning Movement Count (2 . BLOOR STREET & BRIDGEWOOD DRIVE / SITE DRIVEWAY)

Start Time	N Approach BRIDGEWOOD DR						E Approach BLOOR ST						S Approach SITE DRIVEWAY						W Approach BLOOR ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
2025-01-23 07:00:00	4	2	5	0	1	11	2	54	0	0	1	56	3	0	9	0	5	12	2	136	3	0	1	141	220	
2025-01-23 07:15:00	6	0	5	0	8	11	2	60	1	0	3	63	10	0	6	0	3	16	5	133	2	1	8	141	231	
2025-01-23 07:30:00	13	1	12	0	0	26	2	80	1	0	0	83	6	2	8	0	2	16	3	147	2	0	11	152	277	
2025-01-23 07:45:00	8	0	9	0	1	17	3	107	1	0	3	111	4	3	7	0	0	14	2	189	1	0	5	192	334	1062
2025-01-23 08:00:00	15	2	13	0	0	30	10	138	1	0	3	149	7	2	7	0	2	16	6	174	2	0	6	182	377	1219
2025-01-23 08:15:00	12	1	9	0	4	22	9	97	1	0	2	107	6	3	11	0	7	20	9	200	4	0	26	213	362	1350
2025-01-23 08:30:00	15	1	13	0	4	29	20	131	2	0	3	153	9	4	7	0	7	20	4	202	11	0	22	217	419	1492
2025-01-23 08:45:00	26	2	17	0	1	45	16	123	1	0	1	140	6	4	6	0	4	16	5	187	15	0	14	207	408	1566
BREAK																										
2025-01-23 16:00:00	6	5	12	0	3	23	7	197	9	0	3	213	6	0	10	0	6	16	13	168	8	0	9	189	441	
2025-01-23 16:15:00	8	2	8	0	1	18	16	220	10	0	3	246	5	0	7	0	6	12	5	149	5	0	5	159	435	
2025-01-23 16:30:00	6	3	10	0	9	19	16	239	9	0	6	264	4	1	7	0	3	12	6	158	7	0	2	171	466	
2025-01-23 16:45:00	4	2	10	0	6	16	6	238	5	0	2	249	1	2	5	0	3	8	9	152	6	0	4	167	440	1782
2025-01-23 17:00:00	4	2	12	0	7	18	12	234	7	0	2	253	4	0	6	0	4	10	10	178	5	0	2	193	474	1815
2025-01-23 17:15:00	8	4	8	0	2	20	15	275	8	0	0	298	3	0	9	0	4	12	8	170	5	0	0	183	513	1893
2025-01-23 17:30:00	11	1	7	0	2	19	11	235	8	0	4	254	4	1	7	0	2	12	11	183	5	0	1	199	484	1911
2025-01-23 17:45:00	8	1	10	0	7	19	18	216	6	0	3	240	3	3	7	0	7	13	9	165	3	0	3	177	449	1920
Grand Total	154	29	160	0	56	343	165	2644	70	0	39	2879	81	25	119	0	65	225	107	2691	84	1	119	2883	**6330**	-
Approach%	44.9%	8.5%	46.6%	0%		-	5.7%	91.8%	2.4%	0%		-	36%	11.1%	52.9%	0%		-	3.7%	93.3%	2.9%	0%		-	**-**	-
Totals %	2.4%	0.5%	2.5%	0%		5.4%	2.6%	41.8%	1.1%	0%		45.5%	1.3%	0.4%	1.9%	0%		3.6%	1.7%	42.5%	1.3%	0%		45.5%	**-**	-
Heavy	9	1	0	0		-	0	39	1	0		-	3	1	1	0		-	3	45	8	0		-	**-**	-
Heavy %	5.8%	3.4%	0%	0%		-	0%	1.5%	1.4%	0%		-	3.7%	4%	0.8%	0%		-	2.8%	1.7%	9.5%	0%		-	**-**	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	**-**	-

Spectrum

Turning Movement Count
Location Name: BLOOR STREET & BRIDGEWOOD DRIVE / SITE DRIVEWAY
Date: Thu, Jan 23, 2025 Deployment Lead: Rey Fernandez

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Peak Hour: 08:00 AM - 09:00 AM **Weather: Light Snow (-8.13 °C)**

Start Time	N Approach BRIDGEWOOD DR						E Approach BLOOR ST						S Approach SITE DRIVEWAY						W Approach BLOOR ST						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2025-01-23 08:00:00	15	2	13	0	0	30	10	138	1	0	3	149	7	2	7	0	2	16	6	174	2	0	6	182	377
2025-01-23 08:15:00	12	1	9	0	4	22	9	97	1	0	2	107	6	3	11	0	7	20	9	200	4	0	26	213	362
2025-01-23 08:30:00	15	1	13	0	4	29	20	131	2	0	3	153	9	4	7	0	7	20	4	202	11	0	22	217	419
2025-01-23 08:45:00	26	2	17	0	1	45	16	123	1	0	1	140	6	4	6	0	4	16	5	187	15	0	14	207	408
Grand Total	68	6	52	0	9	126	55	489	5	0	9	549	28	13	31	0	20	72	24	763	32	0	68	819	**1566**
Approach%	54%	4.8%	41.3%	0%		-	10%	89.1%	0.9%	0%		-	38.9%	18.1%	43.1%	0%		-	2.9%	93.2%	3.9%	0%		-	**-**
Totals %	4.3%	0.4%	3.3%	0%		8%	3.5%	31.2%	0.3%	0%		35.1%	1.8%	0.8%	2%	0%		4.6%	1.5%	48.7%	2%	0%		52.3%	**-**
PHF	0.65	0.75	0.76	0		0.7	0.69	0.89	0.63	0		0.9	0.78	0.81	0.7	0		0.9	0.67	0.94	0.53	0		0.94	0.93
Heavy	4	1	0	0		5	0	7	0	0		7	1	1	1	0		3	2	15	6	0		23	38
Heavy %	5.9%	16.7%	0%	0%		4%	0%	1.4%	0%	0%		1.3%	3.6%	7.7%	3.2%	0%		4.2%	8.3%	2%	18.8%	0%		2.8%	2.4%
Lights	64	5	52	0		121	55	482	5	0		542	27	12	30	0		69	22	748	26	0		796	1528
Lights %	94.1%	83.3%	100%	0%		96%	100%	98.6%	100%	0%		98.7%	96.4%	92.3%	96.8%	0%		95.8%	91.7%	98%	81.3%	0%		97.2%	97.6%
Single-Unit Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	8	0	0		8	9
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.2%	0%	0%		0.2%	0%	0%	0%	0%		0%	0%	1%	0%	0%		1%	0.6%
Buses	4	1	0	0		5	0	6	0	0		6	1	1	1	0		3	2	7	6	0		15	29
Buses %	5.9%	16.7%	0%	0%		4%	0%	1.2%	0%	0%		1.1%	3.6%	7.7%	3.2%	0%		4.2%	8.3%	0.9%	18.8%	0%		1.8%	1.9%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Pedestrians	-	-	-	-	9	-	-	-	-	-	9	-	-	-	-	-	19	-	-	-	-	-	68	-	**-**
Pedestrians%	-	-	-	-	8.5%		-	-	-	-	8.5%		-	-	-	-	17.9%		-	-	-	-	64.2%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0.9%		-	-	-	-	0%		**-**

Spectrum

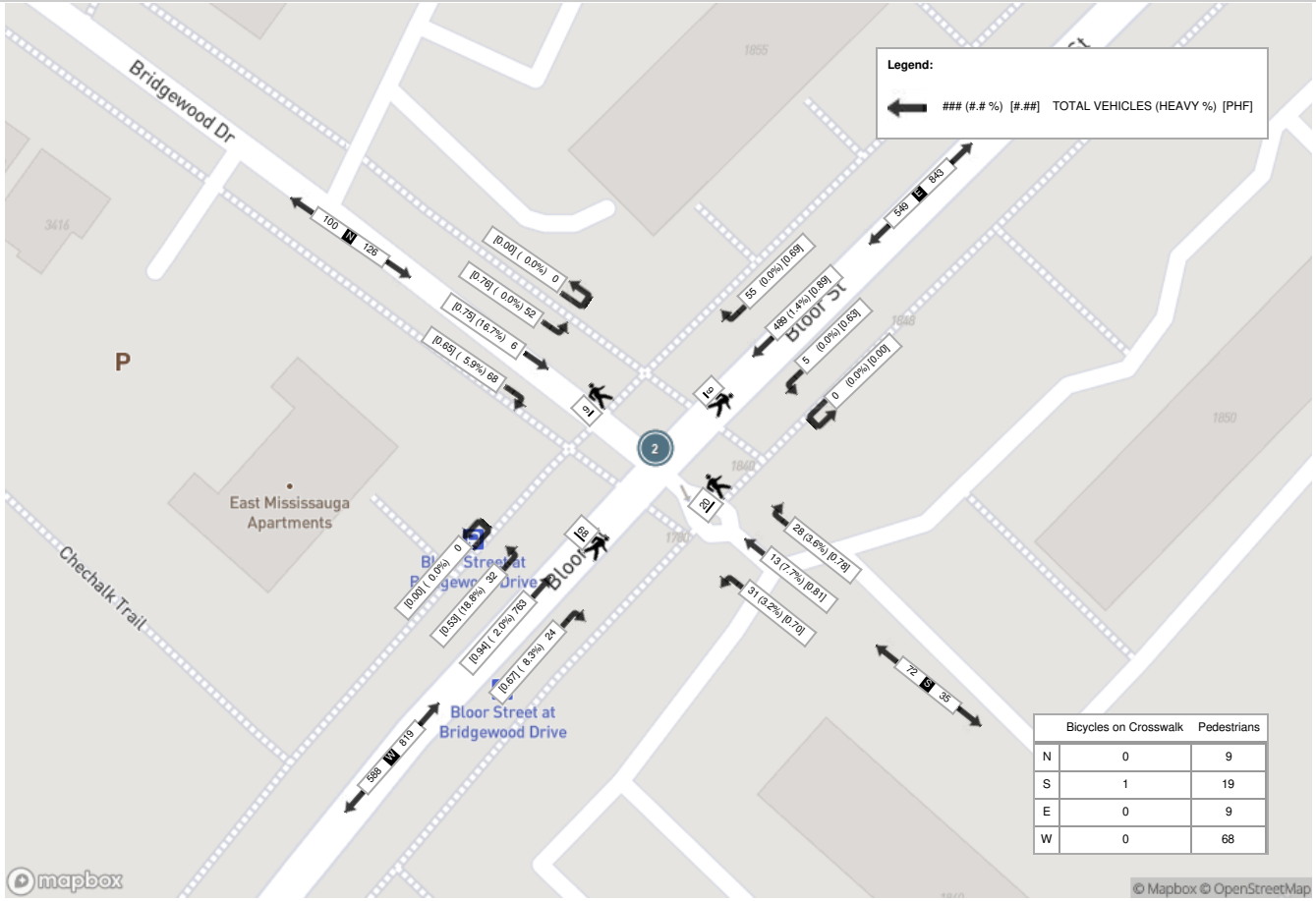
Turning Movement Count
Location Name: BLOOR STREET & BRIDGEWOOD DRIVE / SITE DRIVEWAY
Date: Thu, Jan 23, 2025 Deployment Lead: Rey Fernandez

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-3.66 °C)

Start Time	N Approach BRIDGEWOOD DR						E Approach BLOOR ST						S Approach SITE DRIVEWAY						W Approach BLOOR ST						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2025-01-23 17:00:00	4	2	12	0	7	18	12	234	7	0	2	253	4	0	6	0	4	10	10	178	5	0	2	193	474
2025-01-23 17:15:00	8	4	8	0	2	20	15	275	8	0	0	298	3	0	9	0	4	12	8	170	5	0	0	183	513
2025-01-23 17:30:00	11	1	7	0	2	19	11	235	8	0	4	254	4	1	7	0	2	12	11	183	5	0	1	199	484
2025-01-23 17:45:00	8	1	10	0	7	19	18	216	6	0	3	240	3	3	7	0	7	13	9	165	3	0	3	177	449
Grand Total	31	8	37	0	18	76	56	960	29	0	9	1045	14	4	29	0	17	47	38	696	18	0	6	752	**1920**
Approach%	40.8%	10.5%	48.7%	0%		-	5.4%	91.9%	2.8%	0%		-	29.8%	8.5%	61.7%	0%		-	5.1%	92.6%	2.4%	0%		-	**-**
Totals %	1.6%	0.4%	1.9%	0%		4%	2.9%	50%	1.5%	0%		54.4%	0.7%	0.2%	1.5%	0%		2.4%	2%	36.3%	0.9%	0%		39.2%	**-**
PHF	0.7	0.5	0.77	0		0.95	0.78	0.87	0.91	0		0.88	0.88	0.33	0.81	0		0.9	0.86	0.95	0.9	0		0.94	0.94
Heavy	0	0	0	0		0	0	10	1	0		11	0	0	0	0		0	1	5	0	0		6	17
Heavy %	0%	0%	0%	0%		0%	0%	1%	3.4%	0%		1.1%	0%	0%	0%	0%		0%	2.6%	0.7%	0%	0%		0.8%	0.9%
Lights	31	8	37	0		76	56	950	28	0		1034	14	4	29	0		47	37	691	18	0		746	1903
Lights %	100%	100%	100%	0%		100%	100%	99%	96.6%	0%		98.9%	100%	100%	100%	0%		100%	97.4%	99.3%	100%	0%		99.2%	99.1%
Single-Unit Trucks	0	0	0	0		0	0	2	1	0		3	0	0	0	0		0	1	1	0	0		2	5
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.2%	3.4%	0%		0.3%	0%	0%	0%	0%		0%	2.6%	0.1%	0%	0%		0.3%	0.3%
Buses	0	0	0	0		0	0	8	0	0		8	0	0	0	0		0	0	4	0	0		4	12
Buses %	0%	0%	0%	0%		0%	0%	0.8%	0%	0%		0.8%	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.5%	0.6%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Pedestrians	-	-	-	-	18	-	-	-	-	-	9	-	-	-	-	-	17	-	-	-	-	-	6	-	**-**
Pedestrians%	-	-	-	-	36%		-	-	-	-	18%		-	-	-	-	34%		-	-	-	-	12%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 08:00 AM - 09:00 AM **Weather: Light Snow (-8.13 °C)**



Peak Hour: 05:00 PM - 06:00 PM **Weather: Overcast Clouds (-3.66 °C)**



Spectrum

Turning Movement Count
Location Name: BLOOR STREET & FIELDGATE DRIVE
Date: Thu, Jan 23, 2025 Deployment Lead: Rey Fernandez

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Turning Movement Count (1 . BLOOR STREET & FIELDGATE DRIVE)

Start Time	N Approach FIELDGATE DR						E Approach BLOOR ST						S Approach FIELDGATE DR						W Approach BLOOR ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
2025-01-23 07:00:00	17	2	39	0	6	58	1	53	4	1	5	59	17	10	10	0	7	37	3	81	12	1	3	97	251	
2025-01-23 07:15:00	25	6	27	0	4	58	6	58	8	0	9	72	14	18	9	0	4	41	4	94	12	0	5	110	281	
2025-01-23 07:30:00	23	3	30	0	4	56	9	92	5	1	8	107	20	10	14	0	5	44	8	98	14	0	7	120	327	
2025-01-23 07:45:00	33	2	32	0	7	67	8	97	7	2	9	114	30	10	10	0	1	50	6	129	40	0	7	175	406	1265
2025-01-23 08:00:00	49	12	46	0	7	107	19	105	10	0	13	134	18	18	10	0	4	46	5	113	43	0	9	161	448	1462
2025-01-23 08:15:00	68	14	48	0	4	130	26	99	6	0	12	131	15	17	17	0	2	49	10	154	27	0	8	191	501	1682
2025-01-23 08:30:00	42	16	41	0	3	99	16	127	7	0	12	150	20	17	16	0	6	53	14	143	27	0	5	184	486	1841
2025-01-23 08:45:00	26	10	46	0	7	82	13	113	14	0	7	140	13	16	21	0	6	50	14	143	28	0	9	185	457	1892
BREAK																										
2025-01-23 16:00:00	22	15	44	0	10	81	12	179	16	0	9	207	10	5	8	0	4	23	13	143	25	0	9	181	492	
2025-01-23 16:15:00	25	21	28	0	11	74	18	199	13	1	7	231	8	11	12	0	1	31	15	140	23	0	8	178	514	
2025-01-23 16:30:00	28	19	29	0	9	76	14	201	15	1	13	231	8	7	14	0	8	29	15	123	27	1	14	166	502	
2025-01-23 16:45:00	24	13	32	0	10	69	16	185	21	0	11	222	8	11	12	0	8	31	13	134	26	0	2	173	495	2003
2025-01-23 17:00:00	31	23	39	1	7	94	22	195	23	0	13	240	15	8	21	0	4	44	12	183	32	0	6	227	605	2116
2025-01-23 17:15:00	31	18	41	0	12	90	20	203	15	0	9	238	7	10	21	0	1	38	13	167	27	0	3	207	573	2175
2025-01-23 17:30:00	28	20	43	0	5	91	25	205	18	0	11	248	10	10	10	0	5	30	19	178	32	0	5	229	598	2271
2025-01-23 17:45:00	30	20	35	0	7	85	17	175	21	0	10	213	11	9	14	0	9	34	20	133	29	0	4	182	514	2290
Grand Total	502	214	600	1	113	1317	242	2286	203	6	158	2737	224	187	219	0	75	630	184	2156	424	2	104	2766	**7450**	-
Approach%	38.1%	16.2%	45.6%	0.1%		-	8.8%	83.5%	7.4%	0.2%		-	35.6%	29.7%	34.8%	0%		-	6.7%	77.9%	15.3%	0.1%		-	-	-
Totals %	6.7%	2.9%	8.1%	0%		17.7%	3.2%	30.7%	2.7%	0.1%		36.7%	3%	2.5%	2.9%	0%		8.5%	2.5%	28.9%	5.7%	0%		37.1%	-	-
Heavy	9	3	6	0		-	6	41	4	0		-	1	5	3	0		-	2	52	9	0		-	-	-
Heavy %	1.8%	1.4%	1%	0%		-	2.5%	1.8%	2%	0%		-	0.4%	2.7%	1.4%	0%		-	1.1%	2.4%	2.1%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Peak Hour: 08:00 AM - 09:00 AM Weather: Light Snow (-8.13 °C)

Start Time	N Approach FIELDGATE DR						E Approach BLOOR ST						S Approach FIELDGATE DR						W Approach BLOOR ST						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2025-01-23 08:00:00	49	12	46	0	7	107	19	105	10	0	13	134	18	18	10	0	4	46	5	113	43	0	9	161	448
2025-01-23 08:15:00	68	14	48	0	4	130	26	99	6	0	12	131	15	17	17	0	2	49	10	154	27	0	8	191	501
2025-01-23 08:30:00	42	16	41	0	3	99	16	127	7	0	12	150	20	17	16	0	6	53	14	143	27	0	5	184	486
2025-01-23 08:45:00	26	10	46	0	7	82	13	113	14	0	7	140	13	16	21	0	6	50	14	143	28	0	9	185	457
Grand Total	185	52	181	0	21	418	74	444	37	0	44	555	66	68	64	0	18	198	43	553	125	0	31	721	**1892**
Approach%	44.3%	12.4%	43.3%	0%		-	13.3%	80%	6.7%	0%		-	33.3%	34.3%	32.3%	0%		-	6%	76.7%	17.3%	0%		-	**-**
Totals %	9.8%	2.7%	9.6%	0%		22.1%	3.9%	23.5%	2%	0%		29.3%	3.5%	3.6%	3.4%	0%		10.5%	2.3%	29.2%	6.6%	0%		38.1%	**-**
PHF	0.68	0.81	0.94	0		0.8	0.71	0.87	0.66	0		0.93	0.83	0.94	0.76	0		0.93	0.77	0.9	0.73	0		0.94	0.94
Heavy	3	1	2	0		6	4	9	1	0		14	1	0	1	0		2	0	19	4	0		23	45
Heavy %	1.6%	1.9%	1.1%	0%		1.4%	5.4%	2%	2.7%	0%		2.5%	1.5%	0%	1.6%	0%		1%	0%	3.4%	3.2%	0%		3.2%	2.4%
Lights	182	51	179	0		412	70	435	36	0		541	65	68	63	0		196	43	534	121	0		698	1847
Lights %	98.4%	98.1%	98.9%	0%		98.6%	94.6%	98%	97.3%	0%		97.5%	98.5%	100%	98.4%	0%		99%	100%	96.6%	96.8%	0%		96.8%	97.6%
Single-Unit Trucks	0	1	2	0		3	0	2	0	0		2	0	0	0	0		0	0	4	0	0		4	9
Single-Unit Trucks %	0%	1.9%	1.1%	0%		0.7%	0%	0.5%	0%	0%		0.4%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.6%	0.5%
Buses	3	0	0	0		3	4	7	1	0		12	1	0	1	0		2	0	15	4	0		19	36
Buses %	1.6%	0%	0%	0%		0.7%	5.4%	1.6%	2.7%	0%		2.2%	1.5%	0%	1.6%	0%		1%	0%	2.7%	3.2%	0%		2.6%	1.9%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Pedestrians	-	-	-	-	21	-	-	-	-	-	43	-	-	-	-	-	18	-	-	-	-	-	31	-	**-**
Pedestrians%	-	-	-	-	18.4%		-	-	-	-	37.7%		-	-	-	-	15.8%		-	-	-	-	27.2%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0.9%		-	-	-	-	0%		-	-	-	-	0%		**-**

Spectrum

Turning Movement Count
Location Name: BLOOR STREET & FIELDGATE DRIVE
Date: Thu, Jan 23, 2025 Deployment Lead: Rey Fernandez

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-3.66 °C)

Start Time	N Approach FIELDGATE DR						E Approach BLOOR ST						S Approach FIELDGATE DR						W Approach BLOOR ST						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
2025-01-23 17:00:00	31	23	39	1	7	94	22	195	23	0	13	240	15	8	21	0	4	44	12	183	32	0	6	227	605
2025-01-23 17:15:00	31	18	41	0	12	90	20	203	15	0	9	238	7	10	21	0	1	38	13	167	27	0	3	207	573
2025-01-23 17:30:00	28	20	43	0	5	91	25	205	18	0	11	248	10	10	10	0	5	30	19	178	32	0	5	229	598
2025-01-23 17:45:00	30	20	35	0	7	85	17	175	21	0	10	213	11	9	14	0	9	34	20	133	29	0	4	182	514
Grand Total	120	81	158	1	31	360	84	778	77	0	43	939	43	37	66	0	19	146	64	661	120	0	18	845	**2290**
Approach%	33.3%	22.5%	43.9%	0.3%		-	8.9%	82.9%	8.2%	0%		-	29.5%	25.3%	45.2%	0%		-	7.6%	78.2%	14.2%	0%		-	**-**
Totals %	5.2%	3.5%	6.9%	0%		15.7%	3.7%	34%	3.4%	0%		41%	1.9%	1.6%	2.9%	0%		6.4%	2.8%	28.9%	5.2%	0%		36.9%	**-**
PHF	0.97	0.88	0.92	0.25		0.96	0.84	0.95	0.84	0		0.95	0.72	0.93	0.79	0		0.83	0.8	0.9	0.94	0		0.92	0.95
Heavy	0	0	1	0		1	0	9	1	0		10	0	0	0	0		0	0	5	1	0		6	17
Heavy %	0%	0%	0.6%	0%		0.3%	0%	1.2%	1.3%	0%		1.1%	0%	0%	0%	0%		0%	0%	0.8%	0.8%	0%		0.7%	0.7%
Lights	120	81	157	1		359	84	769	76	0		929	43	37	66	0		146	64	656	119	0		839	2273
Lights %	100%	100%	99.4%	100%		99.7%	100%	98.8%	98.7%	0%		98.9%	100%	100%	100%	0%		100%	100%	99.2%	99.2%	0%		99.3%	99.3%
Single-Unit Trucks	0	0	1	0		1	0	2	1	0		3	0	0	0	0		0	0	1	1	0		2	6
Single-Unit Trucks %	0%	0%	0.6%	0%		0.3%	0%	0.3%	1.3%	0%		0.3%	0%	0%	0%	0%		0%	0%	0.2%	0.8%	0%		0.2%	0.3%
Buses	0	0	0	0		0	0	7	0	0		7	0	0	0	0		0	0	4	0	0		4	11
Buses %	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.7%	0%	0%	0%	0%		0%	0%	0.6%	0%	0%		0.5%	0.5%
Articulated Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Articulated Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%
Pedestrians	-	-	-	-	30	-	-	-	-	-	41	-	-	-	-	-	18	-	-	-	-	-	18	-	**-**
Pedestrians%	-	-	-	-	27%		-	-	-	-	36.9%		-	-	-	-	16.2%		-	-	-	-	16.2%		**-**
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0.9%		-	-	-	-	1.8%		-	-	-	-	0.9%		-	-	-	-	0%		**-**

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Peak Hour: 08:00 AM - 09:00 AM **Weather: Light Snow (-8.13 °C)**



	Bicycles on Crosswalk	Pedestrians
N	0	21
S	0	18
E	1	43
W	0	31

BA Group
1000 95 ST. CLAIR AVE W
TORONTO ONTARIO, M4V 1N6
CANADA

Peak Hour: 05:00 PM - 06:00 PM Weather: Overcast Clouds (-3.66 °C)



	Bicycles on Crosswalk	Pedestrians
N	1	30
S	1	18
E	2	41
W	0	18

Appendix E: Signal Timing Plans

Location	BLOOR STREET E @ Bridgewood Drive
Phase 1	
Phase 2	Bloor Street (E/W)
Phase 3	
Phase 4	Bridgewood/Private Access (N/S)

Controller Type: **Intelight** ID: **1910** Location: **BLOOR STREET E @ Bridgewood Drive**

Phase - Parameter 1-16	**Units**	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Phase 6**	**Phase 7**	**Phase 8**
Phase Description*	String								
Walk	Sec	0	10	0	10	0	0	0	0
Ped Clear	Sec	0	12	0	15	0	0	0	0
Min Green	Sec	0	10	0	10	0	0	0	0
Passage	Sec	0	3	0	3	0	0	0	0
Maximum 1	Sec	0	27	0	20	0	0	0	0
Maximum 2	Sec	0	27	0	20	0	0	0	0
Yellow Change	Sec	3	3.5	3	3	3	4	3	4
Red Clearance	Sec	0	2.5	0	3.5	0	0	0	0
Red Revert	Sec	0	0	0	0	0	0	0	0
Added Initial	Sec	0	0	0	0	0	0	0	0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0	0	0	0	0	0	0	0
Min Gap	Sec	0	0	0	0	0	0	0	0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0	0	0	0	0	0	0	0
[P2] Start Up	Enum	other	redClear	other	phaseNotOn	other	other	other	other
[P2] Options	Bit		0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory				
[P2] Ring	Ring	0	1	0	1	0	0	0	0
[P2] Concurrency	Phase (,)	()	()	()	()	()	()	()	()

Coordination - Pattern 1-32	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cycle Time	Sec	100	80	100	0	0	0	0	0
Offset	Sec	12	38	13	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1
Phase Parameter Table*	Number	1	1	1	1	1	1	1	1
Coord Phase Reference Point*	Enum	green	green	green	green	green	green	green	green
Coord Mode*	Enum	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive

Coordination - Splits	**Units**	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Phase 6**	**Phase 7**	**Phase 8**
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	68	0	32	0	0	0	0
Split 1 - Coord	Enum	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Split 1 - Coord Phase Options*	Bit		0: Reference Point						
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	48	0	32	0	0	0	0
Split 2 - Coord	Enum	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Split 2 - Coord Phase Options*	Bit		0: Reference Point						
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	0	68	0	32	0	0	0	0
Split 3 - Coord	Enum	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
Split 3 - Coord Phase Options*	Bit		0: Reference Point						

Time Base - Schedule 1-16	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F---------	---A-------	----M------	-----J-----
Day of Week	Bit	-MTWTF-	S------	#NAME?	----T--	-M-----	-----F-	-M-----	--T----
Day of Month	Bit	1.23457E+30	1.23457E+30	1.23457E+30	1----------	----------7----------	----------8----------	----------9----------	1----------
Day Plan	Number	1	3	2	3	3	3	3	3

Time Base - Schedule 1-16	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Month	Bit	-------A----	--------S---	---------O--	#NAME?	#NAME?	#NAME?	--------S---	----------
Day of Week	Bit	-M-----	-M-----	-M-----	----T--	-----F-	---W---	--T----	SMTWTFS
Day of Month	Bit	---4----------	1----------	----------3----------	----------5------	----------6-----	----------4-------	----------0-	----------
Day Plan	Number	3	3	3	3	3	3	3	0

Time Base - Day Plans	**Units**	**Evt 1**	**Evt 2**	**Evt 3**	**Evt 4**	**Evt 5**	**Evt 6**
Plan 1 Hour	Hour	0	7	9	16	18	3
Plan 1 Minute	Min	0	0	0	0	30	0
Plan 1 Action	Number	8	1	2	3	8	7
Plan 2 Hour	Hour	0	3	9	18	0	0
Plan 2 Minute	Min	0	0	0	30	0	0
Plan 2 Action	Number	8	7	2	8	0	0
Plan 3 Hour	Hour	0	3	9	18	0	0
Plan 3 Minute	Min	0	0	0	30	0	0
Plan 3 Action	Number	8	7	2	8	0	0

Time Base - Action 1-32	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit								

Location	BLOOR STREET E @ Fieldgate Drive
Phase 1	
Phase 2	Bloor Street (EB)
Phase 3	
Phase 4	Fieldgate Drive (NB)
Phase 5	Bloor Street (EBLT)
Phase 6	Bloor Street (WB)
Phase 7	
Phase 8	Fieldgate Drive (SB)

Controller Type:	Intelight	ID:	1909	Location:	BLOOR STREET E @ Fieldgate Drive				
Phase - Parameter 1-16	**Units**	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Phase 6**	**Phase 7**	**Phase 8**
Phase Description*	String								
Walk	Sec	0	10	0	10	0	10	0	10
Ped Clear	Sec	0	17	0	22	0	17	0	22
Min Green	Sec	0	10	0	10	7	10	0	10
Passage	Sec	0	3	0	3	2	3	0	3
Maximum 1	Sec	0	21	0	24	10	21	0	24
Maximum 2	Sec	0	21	0	24	10	21	0	24
Yellow Change	Sec	3	3.5	3	3	3	3.5	3	3
Red Clearance	Sec	0	3	0	3.5	0	3	0	3.5
Red Revert	Sec	0	0	0	0	0	0	0	0
Added Initial	Sec	0	0	0	0	0	0	0	0
Max Initial	Sec	0	0	0	0	0	0	0	0
Time Before Reduction	Sec	0	0	0	0	0	0	0	0
Cars Before Reduction	Veh	0	0	0	0	0	0	0	0
Time To Reduce	Sec	0	0	0	0	0	0	0	0
Reduce By	Sec	0	0	0	0	0	0	0	0
Min Gap	Sec	0	0	0	0	0	0	0	0
Dynamic Max Limit	Sec	0	0	0	0	0	0	0	0
Dynamic Max Step	Sec	0	0	0	0	0	0	0	0
[P2] Start Up	Enum	other	redClear	other	phaseNotOn	phaseNotOn	redClear	other	phaseNotOn
[P2] Options	Bit		0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase	0:Enabled Phase 5:Non Lock Detector Memory	0:Enabled Phase 3:Non-Actuated 1 7:Max Vehicle Recall 8:Ped. Recall 10:Dual Entry Phase 13:Actuated Rest In Walk		0:Enabled Phase 5:Non Lock Detector Memory 10:Dual Entry Phase
[P2] Ring	Ring	0	1	0	1	2	2	0	2
[P2] Concurrency	Phase (,)	()	(5,6)	()	-8	-2	-2	()	-4
Coordination - Pattern 1-32	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Cycle Time	Sec	100	80	100	0	0	0	0	0
Offset	Sec	10	17	41	0	0	0	0	0
Split	Split	1	2	3	4	5	6	7	8
Sequence	Sequence	1	1	1	1	1	1	1	1
Phase Parameter Table*	Number	1	1	1	1	1	1	1	1
Coord Phase Reference Point*	Enum	green	green	green	green	green	green	green	green
Coord Mode*	Enum	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive	singlePermissive
Coordination - Splits	**Units**	**Phase 1**	**Phase 2**	**Phase 3**	**Phase 4**	**Phase 5**	**Phase 6**	**Phase 7**	**Phase 8**
Split 1 - Mode	Enum	none	none	none	none	none	none	none	none
Split 1 - Time	Sec	0	60	0	40	12	48	0	40
Split 1 - Coord	Enum	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
Split 1 - Coord Phase Options*	Bit						0: Reference Point		
Split 2 - Mode	Enum	none	none	none	none	none	none	none	none
Split 2 - Time	Sec	0	46	0	34	12	34	0	34
Split 2 - Coord	Enum	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
Split 2 - Coord Phase Options*	Bit						0: Reference Point		
Split 3 - Mode	Enum	none	none	none	none	none	none	none	none
Split 3 - Time	Sec	0	60	0	40	12	48	0	40
Split 3 - Coord	Enum	FALSE	TRUE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
Split 3 - Coord Phase Options*	Bit						0: Reference Point		
Time Base - Schedule 1-16	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Month	Bit	JFMAMJJASOND	JFMAMJJASOND	JFMAMJJASOND	J----------	-F----------	---A--------	----M-------	------J-----
Day of Week	Bit	-MTWTF-	S------	#NAME?	----T--	-M-----	-----F-	-M-----	--T----
Day of Month	Bit	1.23457E+30	1.23457E+30	1.23457E+30	1----------	----------7----------	----------8----------	----------9----------	1----------
Day Plan	Number	1	3	2	3	3	3	3	3
Time Base - Schedule 1-16	**Units**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Month	Bit	-------A----	--------S---	---------O--	#NAME?	#NAME?	#NAME?	--------S---	----------
Day of Week	Bit	-M-----	-M-----	-M-----	----T--	-----F-	---W---	--T----	SMTWTFS
Day of Month	Bit	---4----------	1----------	----------3----------	----------5------	----------6-----	----------4-------	----------0-	----------
Day Plan	Number	3	3	3	3	3	3	3	0
Time Base - Day Plans	**Units**	**Evt 1**	**Evt 2**	**Evt 3**	**Evt 4**	**Evt 5**	**Evt 6**		
Plan 1 Hour	Hour	0	7	9	16	18	3		
Plan 1 Minute	Min	0	0	0	0	30	0		
Plan 1 Action	Number	8	1	2	3	8	7		
Plan 2 Hour	Hour	0	3	9	18	0	0		
Plan 2 Minute	Min	0	0	0	30	0	0		
Plan 2 Action	Number	8	7	2	8	0	0		
Plan 3 Hour	Hour	0	3	9	18	0	0		
Plan 3 Minute	Min	0	0	0	30	0	0		
Plan 3 Action	Number	8	7	2	8	0	0		
Time Base - Action 1-32	**Units**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Pattern	Enum	Pattern 1	Pattern 2	Pattern 3	Pattern 4	Pattern 5	Pattern 6	Free	Free
Aux. Functions	Bit								

Appendix F: Previous Background Development Materials

3.0 Traffic Forecasts

3.1 Existing Traffic

BA Group undertook turning movement counts in 2009 and 2010 in order to establish base traffic volumes in the study area. These traffic counts were updated in April 2013 and compared favorably with previous count years with the exception of the westbound through movement on the Bloor Street corridor which was lower compared to previous years. Therefore, the 2009/2010 westbound volumes were conservatively adopted on the Bloor Street corridor.

Figure 4 summarizes base turning movement volumes under existing conditions for the weekday morning and afternoon peak hours based on updated turning movement counts. The existing apartment building generates approximately 40 and 50 total two–way trips in the morning and afternoon peak hours, respectively.

3.2 Future Background Traffic

In order to determine long-term traffic growth over the five year planning horizon to 2018, BA Group undertook a review of historical growth patterns on the arterial/collector corridors at the key Bloor Street at Mill Road intersection.

Overall growth rates of 1 percent per annum, in the morning and afternoon peak hours respectively, were applied to east and westbound through movements along Bloor Street and balanced on the corridors (i.e. added to through traffic volumes at collector and local road intersections in the study area).

The City of Toronto confirmed that there are no other active development applications in the area, therefore, no other site specific traffic allowances were considered.

Figure 5 summarizes projected future background traffic volumes for the weekday morning and afternoon peak hours.

3.3 Site Traffic

3.3.1 Trip Generation

Trip generation rates for the proposed residential condominium development were developed from BA Group archived data for similar developments in the City of Toronto and compared to data published in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 7th Edition. A detailed table is attached in **Appendix A**.

Table 1 summarizes site traffic trip generation based on the selected rates. The proposed development will generate approximately 85 and 95 new two-way trips during the morning and afternoon peak hours respectively.

Table 1 Trip Generation

Land Use	Intensity	Morning Peak Hour			Afternoon Peak Hour		
		Inbound	**Outbound**	**Total**	**Inbound**	**Outbound**	**Total**
Proposed Condominium *Rate per dwelling unit*		*(0.10)*	*(0.25)*	*(0.35)*	*(0.24)*	*(0.14)*	*(0.38)*
Building 1	225 units	25	55	80	55	30	85
Building 2	20 units	0	5	5	5	5	10
New Site Traffic	**245 units**	**25**	**60**	**85**	**60**	**35**	**95**
Existing Apartment Building	-	5	35	40	35	10	45
Total Site Traffic	**-**	**30**	**95**	**125**	**95**	**45**	**140**

3.3.2 Trip Distribution

Directional distribution for residential site traffic was derived using 2006 Transportation Tomorrow Survey (TTS) data.

The proxy zone, bounded by Bloor Street to the south, the City of Toronto border to the west, Burnhamthorpe Road to the north, and Highway 427 to the east (TTS Zone 24) has a high residential population base and was used to obtain a home-based trip distribution.

The data was filtered to include auto trips in the morning and afternoon peak periods. Data for zones within City of Toronto Planning Districts 8, the rest of the City of Toronto, the City of Mississauga, and other municipalities were aggregated.

Tables summarizing inbound and outbound trips to/from the proxy zones and the corresponding major travel routes and distributions to/from the development site are provided in **Appendix A**.

Table 2 summarizes the resultant directional distribution to/from the site for the residential land uses.

Table 2 Directional Distribution

Direction	Inbound %	Outbound%
East via Bloor Street	70%	65%
West via Bloor Street	20%	25%
North via Mill Road	10%	10%
Total	**100%**	**100%**

3.3.3 Trip Assignment

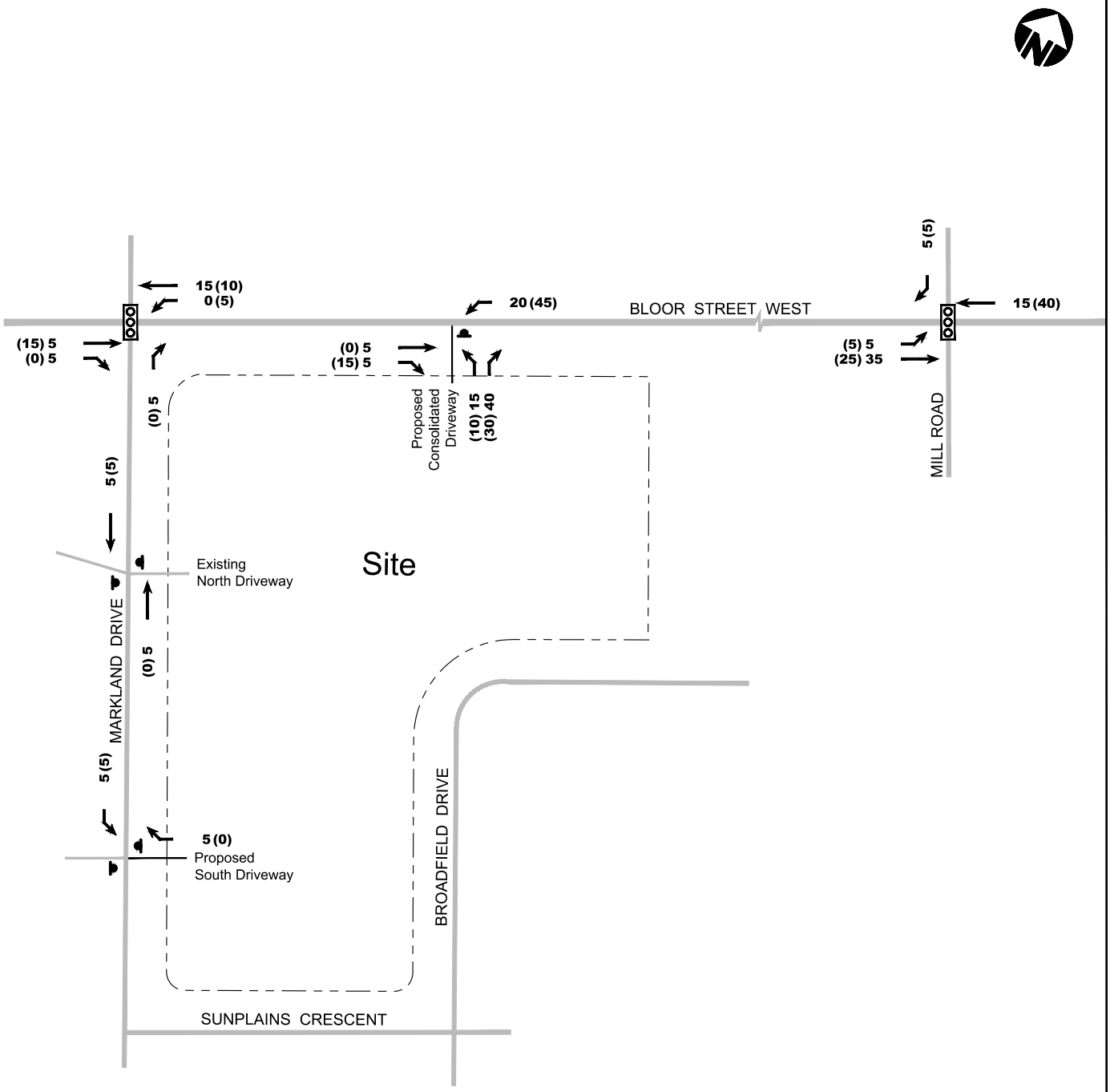
The foregoing trip generation and trip distribution data were used with a micro trip assignment method to assign site traffic to the access points and intersections in the study area.

Based on the currently proposed parking garage ramp location and driveway connections, the existing apartment site traffic has been re-assigned to the north driveway on Markland Drive and proposed consolidated driveway on Bloor Street. Site traffic related to the new 12-storey condominium building has been assigned to the driveway on Bloor Street. Site traffic related to the new 2-storey townhouse building has been assigned to the proposed new south driveway on Markland Drive.

Figure 6 and **Figure 7** illustrate the existing and re-assigned site traffic, respectively during the weekday morning and afternoon peak hours. **Figure 8** summarizes the new site traffic for the weekday morning and afternoon peak hours in the 2018 time horizon.

3.4 Future Total Traffic

Future total traffic was developed by adding new site traffic volumes to future background traffic volumes. **Figure 9** summarizes future total traffic for the weekday morning and afternoon peak hours at the 2018 horizon year.



SITE TRAFFIC VOLUMES

00 AM Peak Hour

(00) PM Peak Hour

Existing Traffic Signal

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DATE PLOTTED: June 07, 2013

4.0 SITE TRAFFIC

The development proposal is to construct an 8-storey residential building to provide an additional 10,577.4 m^2 of gross floor area (GFA). Trip rates and site generated trips were derived from the information contained in the *Trip Generation Manual, 9th Edition* published by the Institute of Transportation Engineers (ITE) for "Residential Condominium/Townhouse" (LUC 230). The trip generation summary is provided in **Appendix E** and shown in **Table 4.1**.

Table 4.1 – Site Traffic Trip Generation (Based on ITE)

ITE Land Use	Parameter	Morning Peak Hour			Afternoon Peak Hour		
		In	Out	Total	In	Out	Total
Residential Condominium/Townhouse (LUC 230) 159 units	Gross New Trips	13	62	75	88	43	131
	Trip Rate	0.08	0.39	0.47	0.55	0.27	0.82
	Non-Auto (25%)	3	16	19	22	11	33
Total	**New Trips**	**10**	**46**	**56**	**66**	**32**	**98**
	New Rate	**0.06**	**0.29**	**0.35**	**0.42**	**0.20**	**0.62**

Based on the information contained in the 2011 Transportation Tomorrow Survey (TTS), a non-auto modal split for the subject area is approximately 25%. As shown in **Table 4.1**, the proposed development is anticipated to generate 56 two-way trips (10 inbound and 46 outbound) during the AM peak hours and 98 two-way trips (66 inbound and 32 outbound) during the PM peak hours.

Furthermore, based on the existing site traffic trends, the Apartment Building is generating a trip rate of 0.34 trips per occupied unit during the AM peak hours and 0.49 trips per occupied unit during the PM peak hours. Therefore, the ITE rate applied to this land use is conservative. **Table 4.2** shows the existing site traffic and trip rates for the AM and PM peak hours.

Table 4.2 – Existing Site Traffic Trip Generation

Land Use	Parameter	Morning Peak Hour			Afternoon Peak Hour		
		In	Out	Total	In	Out	Total
Apartment Building 93 units	Total Trips	10	22	32	29	17	46
	Trip Rate	0.11	0.24	0.34	0.31	0.18	0.49

The assumptions for the trip distribution rates are based on the information extracted from the 2011 Transportation Tomorrow Survey (TTS) and existing traffic patterns and routes that drivers would likely take to access the subject site and engineering judgement based on ease of site access. As a result, site trip distribution is summarized for the inbound and outbound site traffic movements during the morning and afternoon peak hours in **Table 4.3** with the trip assignment illustrated in **Figure 4-2**.

Table 4.3 – Site Traffic Trip Distribution

Direction	Via	AM Peak Hour		PM Peak Hour	
		Inbound	Outbound	Inbound	Outbound
North	Dixie Road	20%	20%	20%	20%
South	Dixie Road	35%	35%	35%	35%
East	Burnhamthorpe Road East	15%	15%	15%	15%
West	Burnhamthorpe Road East	30%	30%	30%	30%
Total		**100%**	**100%**	**100%**	**100%**

4 SITE-GENERATED TRAFFIC

4.1 TRIP GENERATION

The trip generation for the two (2) proposed residential towers were projected by using the vehicle trip rates of the two (2) apartment buildings on-site. To be conservative the maximum trip rate of the two buildings was applied to project the future site trips. The existing and future site trip generation is outlined in **Table 4-1.**

Subject Site Trip Generation							
Trips Generated	Units	AM Peak Hour (Trips)			PM Peak Hour (Trips)		
		In	Out	Total	In	Out	Total
Existing Trip Generation							
3480 Havenwood Drive (Building A)	132	8	23	31	19	9	28
1450 Williamsport Drive (Building B)	132	12	35	47	26	13	39
Total Existing Site Trips		**20**	**58**	**78**	**45**	**22**	**67**
Proposed Site Trip Generation							
Residential Trip Rate (Max Rate)	-	0.09	0.27	0.36	0.20	0.10	0.30
Building C	103	9	28	37	21	10	31
Building D	99	9	27	36	20	10	30
TOTAL NEW SITE TRIPS		**18**	**55**	**73**	**41**	**20**	**61**

Table 4-1: Subject Site Trip Generation Summary

The subject site is projected to generate and additional 73 trips (18 inbound, 55 outbound) and 61 trips (41 inbound, 20 outbound) during the AM and PM peak hour periods.

4.2 TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution of site traffic was estimate using Transportation Tomorrow Survey (TTS) 2016 data. The traffic has been assigned accordingly to each site access based on the existing observed distribution. The applied residential trip distribution for the proposed development is outlined in **Table 4-2** below and further detailed in **Appendix E.**

SUBJECT SITE TRIP DISTRIBUTION					
Direction	Street	Weekday AM Peak Hour		Weekday PM Peak Hour	
		IN	OUT	IN	OUT
Eastbound	Bloor Street	37%	27%	30%	15%
Westbound	Bloor Street	15%	30%	27%	37%
Northbound	Dixie Road	9%	33%	10%	39%
Southbound	Dixie Road	39%	10%	33%	9%
TOTAL		**100%**	**100%**	**100%**	**100%**

Table 4-2: Directional Trip Distribution

The site-generated traffic volumes for the AM and PM peak hours are illustrated in **Figure 4-1**.

DRAFT

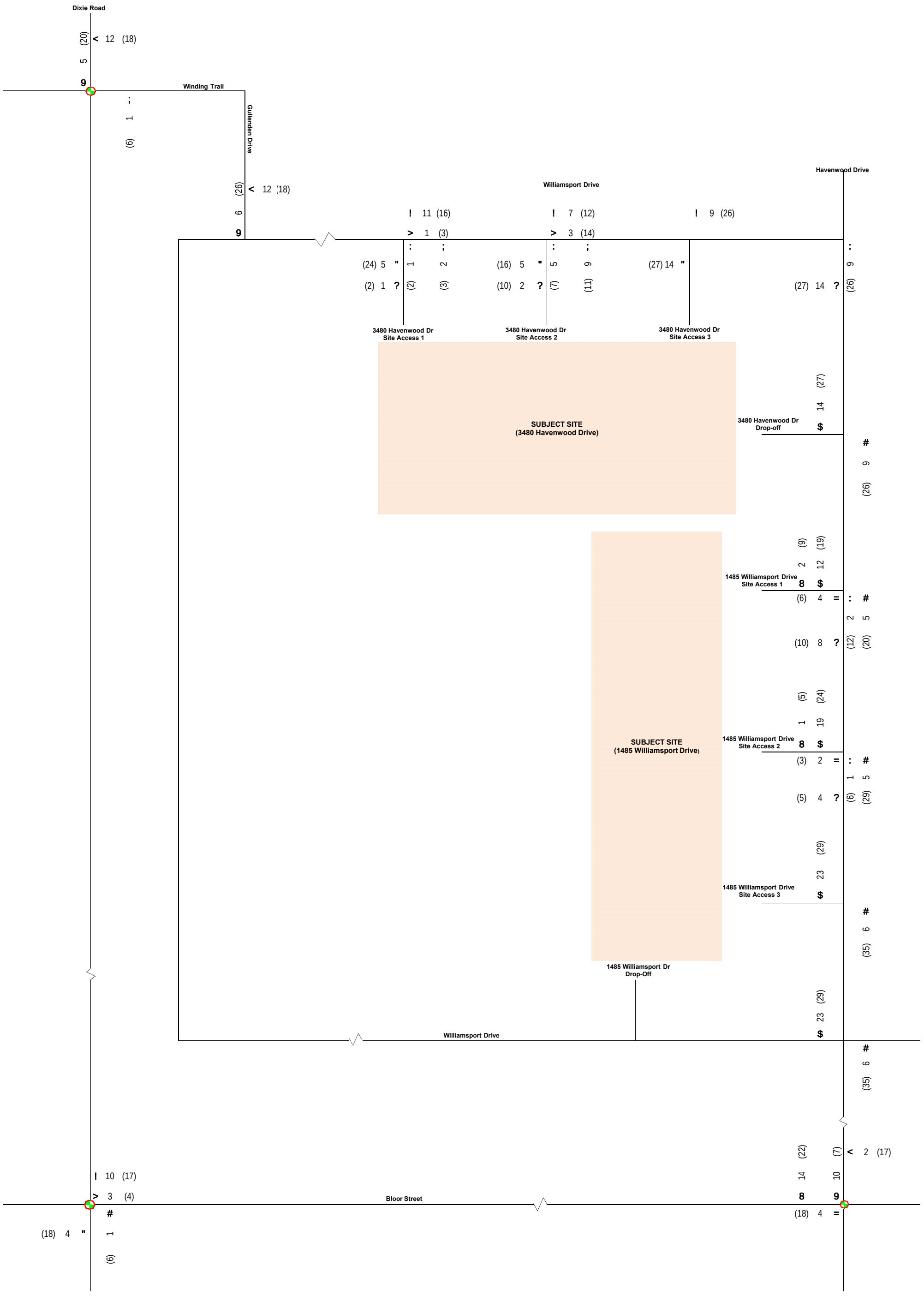


FIGURE 4-1
FUTURE TOTAL (2023)
LEA Consulting Ltd.

NOT TO SCALE

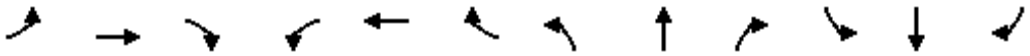
LEGEND

XX (XX) WEEKDAY AM (PM) PEAK HOUR TRAFFIC VOLUMES

SIGNALIZED INTERSECTION

Appendix G: Synchro Outputs

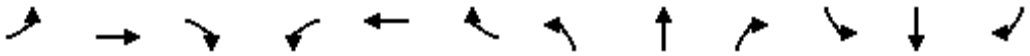
Scenario 1 Synchro Analysis Results
Existing Lane Configurations and Existing Signal Timings



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	372	43	39	298	67	65	47	75	151	35	145
Future Volume (vph)	99	372	43	39	298	67	65	47	75	151	35	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.97	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		0.98	1.00		0.96	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.91		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	3440		1717	3388		1733	1648		1724	1585	
Flt Permitted	0.49	1.00		0.50	1.00		0.59	1.00		0.67	1.00	
Satd. Flow (perm)	900	3440		896	3388		1075	1648		1223	1585	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	105	396	46	41	317	71	69	50	80	161	37	154
RTOR Reduction (vph)	0	8	0	0	17	0	0	58	0	0	111	0
Lane Group Flow (vph)	105	434	0	41	371	0	69	72	0	161	80	0
Confl. Peds. (#/hr)	20		20	20		20	30		45	45		30
Heavy Vehicles (%)	3%	3%	0%	3%	2%	5%	2%	0%	2%	1%	2%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	59.3	59.3		49.4	49.4		27.7	27.7		27.7	27.7	
Effective Green, g (s)	59.3	59.3		49.4	49.4		27.7	27.7		27.7	27.7	
Actuated g/C Ratio	0.59	0.59		0.49	0.49		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	591	2039		442	1673		297	456		338	439	
v/s Ratio Prot	0.01	c0.13			0.11			0.04			0.05	
v/s Ratio Perm	0.09			0.05			0.06			c0.13		
v/c Ratio	0.18	0.21		0.09	0.22		0.23	0.16		0.48	0.18	
Uniform Delay, d1	8.9	9.5		13.4	14.4		27.9	27.3		30.1	27.5	
Progression Factor	1.00	1.00		0.75	0.73		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.2		0.4	0.3		0.4	0.2		1.1	0.2	
Delay (s)	9.0	9.7		10.5	10.8		28.3	27.5		31.2	27.7	
Level of Service	A	A		B	B		C	C		C	C	
Approach Delay (s)		9.6			10.7			27.8			29.3	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

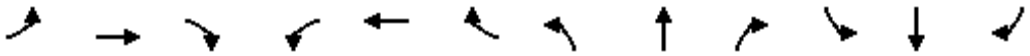
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	511	35	17	327	43	69	15	29	40	15	97
Future Volume (vph)	39	511	35	17	327	43	69	15	29	40	15	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.5			6.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.94	
Flpb, ped/bikes		1.00			1.00			0.96			1.00	
Frt		0.99			0.98			0.97			0.91	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3429			3494			1640			1523	
Flt Permitted		0.90			0.92			0.69			0.89	
Satd. Flow (perm)		3086			3214			1161			1378	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	42	549	38	18	352	46	74	16	31	43	16	104
RTOR Reduction (vph)	0	4	0	0	9	0	0	13	0	0	66	0
Lane Group Flow (vph)	0	625	0	0	407	0	0	108	0	0	97	0
Confl. Peds. (#/hr)	10		20	20		10	70		10	10		70
Heavy Vehicles (%)	19%	2%	8%	0%	1%	0%	3%	8%	4%	0%	17%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		65.5			65.5			22.0			22.0	
Effective Green, g (s)		65.5			65.5			22.0			22.0	
Actuated g/C Ratio		0.66			0.66			0.22			0.22	
Clearance Time (s)		6.0			6.0			6.5			6.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2021			2105			255			303	
v/s Ratio Prot												
v/s Ratio Perm		c0.20			0.13			c0.09			0.07	
v/c Ratio		0.31			0.19			0.42			0.32	
Uniform Delay, d1		7.5			6.8			33.5			32.7	
Progression Factor		0.94			1.00			1.00			1.00	
Incremental Delay, d2		0.4			0.2			1.1			0.6	
Delay (s)		7.4			7.0			34.7			33.3	
Level of Service		A			A			C			C	
Approach Delay (s)		7.4			7.0			34.7			33.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

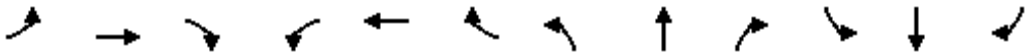
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	441	57	64	521	77	57	23	60	137	53	93
Future Volume (vph)	101	441	57	64	521	77	57	23	60	137	53	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.99	1.00		0.98	1.00		0.98	1.00		0.96	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.89		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1776	3494		1755	3476		1778	1628		1720	1685	
Flt Permitted	0.35	1.00		0.46	1.00		0.65	1.00		0.70	1.00	
Satd. Flow (perm)	649	3494		846	3476		1221	1628		1269	1685	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	464	60	67	548	81	60	24	63	144	56	98
RTOR Reduction (vph)	0	9	0	0	10	0	0	46	0	0	69	0
Lane Group Flow (vph)	106	515	0	67	619	0	60	41	0	144	85	0
Confl. Peds. (#/hr)	30		20	20		30	20		45	45		20
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	59.4	59.4		48.1	48.1		27.6	27.6		27.6	27.6	
Effective Green, g (s)	59.4	59.4		48.1	48.1		27.6	27.6		27.6	27.6	
Actuated g/C Ratio	0.59	0.59		0.48	0.48		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	479	2075		406	1671		336	449		350	465	
v/s Ratio Prot	0.02	c0.15			c0.18			0.03			0.05	
v/s Ratio Perm	0.11			0.08			0.05			c0.11		
v/c Ratio	0.22	0.25		0.17	0.37		0.18	0.09		0.41	0.18	
Uniform Delay, d1	9.2	9.7		14.6	16.4		27.6	26.9		29.6	27.6	
Progression Factor	1.00	1.00		1.19	1.12		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		0.8	0.6		0.3	0.1		0.8	0.2	
Delay (s)	9.4	10.0		18.3	19.0		27.8	27.0		30.4	27.8	
Level of Service	A	A		B	B		C	C		C	C	
Approach Delay (s)		9.9			18.9			27.3			29.0	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	464	39	32	641	50	23	3	17	30	7	23
Future Volume (vph)	27	464	39	32	641	50	23	3	17	30	7	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.5			6.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.99			0.99			0.95			0.95	
Flt Protected		1.00			1.00			0.97			0.98	
Satd. Flow (prot)		3507			3511			1729			1736	
Flt Permitted		0.89			0.91			0.84			0.84	
Satd. Flow (perm)		3121			3193			1486			1494	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	494	41	34	682	53	24	3	18	32	7	24
RTOR Reduction (vph)	0	5	0	0	5	0	0	14	0	0	19	0
Lane Group Flow (vph)	0	559	0	0	764	0	0	31	0	0	44	0
Confl. Peds. (#/hr)	20		15	15		20	5		10	10		5
Heavy Vehicles (%)	0%	1%	3%	3%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		67.5			67.5			20.0			20.0	
Effective Green, g (s)		67.5			67.5			20.0			20.0	
Actuated g/C Ratio		0.68			0.68			0.20			0.20	
Clearance Time (s)		6.0			6.0			6.5			6.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2106			2155			297			298	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.24			0.02			c0.03	
v/c Ratio		0.27			0.35			0.10			0.15	
Uniform Delay, d1		6.4			6.9			32.7			33.0	
Progression Factor		0.81			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.5			0.2			0.2	
Delay (s)		5.5			7.4			32.8			33.2	
Level of Service		A			A			C			C	
Approach Delay (s)		5.5			7.4			32.8			33.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	570	45	35	470	75	65	70	65	180	50	185
Future Volume (vph)	125	570	45	35	470	75	65	70	65	180	50	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.97		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		0.97	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1744	3459		1726	3425		1737	1701		1725	1591	
Flt Permitted	0.37	1.00		0.40	1.00		0.49	1.00		0.67	1.00	
Satd. Flow (perm)	680	3459		733	3425		904	1701		1209	1591	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	133	606	48	37	500	80	69	74	69	191	53	197
RTOR Reduction (vph)	0	5	0	0	12	0	0	36	0	0	142	0
Lane Group Flow (vph)	133	649	0	37	568	0	69	107	0	191	108	0
Confl. Peds. (#/hr)	20		20	20		20	30		45	45		30
Heavy Vehicles (%)	3%	3%	0%	3%	2%	5%	2%	0%	2%	1%	2%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	58.9	58.9		47.1	47.1		28.1	28.1		28.1	28.1	
Effective Green, g (s)	58.9	58.9		47.1	47.1		28.1	28.1		28.1	28.1	
Actuated g/C Ratio	0.59	0.59		0.47	0.47		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	494	2037		345	1613		254	477		339	447	
v/s Ratio Prot	0.02	c0.19			c0.17			0.06			0.07	
v/s Ratio Perm	0.13			0.05			0.08			c0.16		
v/c Ratio	0.27	0.32		0.11	0.35		0.27	0.22		0.56	0.24	
Uniform Delay, d1	9.5	10.4		14.7	16.8		28.0	27.6		30.7	27.7	
Progression Factor	1.00	1.00		0.95	0.91		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.4		0.6	0.6		0.6	0.2		2.1	0.3	
Delay (s)	9.8	10.8		14.6	15.9		28.6	27.8		32.9	28.0	
Level of Service	A	B		B	B		C	C		C	C	
Approach Delay (s)		10.6			15.8			28.1			30.1	
Approach LOS		B			B			C			C	

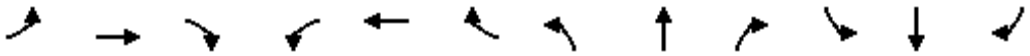
Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	780	25	5	515	55	30	15	30	50	5	70
Future Volume (vph)	30	780	25	5	515	55	30	15	30	50	5	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.5			6.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.95	
Flpb, ped/bikes		1.00			1.00			0.97			1.00	
Frt		1.00			0.99			0.95			0.92	
Flt Protected		1.00			1.00			0.98			0.98	
Satd. Flow (prot)		3482			3511			1629			1562	
Flt Permitted		0.91			0.95			0.85			0.84	
Satd. Flow (perm)		3185			3333			1415			1336	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	839	27	5	554	59	32	16	32	54	5	75
RTOR Reduction (vph)	0	2	0	0	7	0	0	25	0	0	48	0
Lane Group Flow (vph)	0	896	0	0	611	0	0	55	0	0	86	0
Confl. Peds. (#/hr)	10		20	20		10	70		10	10		70
Heavy Vehicles (%)	19%	2%	8%	0%	1%	0%	3%	8%	4%	0%	17%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		65.5			65.5			22.0			22.0	
Effective Green, g (s)		65.5			65.5			22.0			22.0	
Actuated g/C Ratio		0.66			0.66			0.22			0.22	
Clearance Time (s)		6.0			6.0			6.5			6.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2086			2183			311			293	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.18			0.04			c0.06	
v/c Ratio		0.43			0.28			0.18			0.29	
Uniform Delay, d1		8.3			7.3			31.7			32.5	
Progression Factor		0.77			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.3			0.3			0.6	
Delay (s)		7.0			7.6			31.9			33.1	
Level of Service		A			A			C			C	
Approach Delay (s)		7.0			7.6			31.9			33.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	675	65	75	800	85	65	35	45	160	80	120
Future Volume (vph)	120	675	65	75	800	85	65	35	45	160	80	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.97		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.96	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1784	3513		1765	3501		1781	1689		1720	1697	
Flt Permitted	0.21	1.00		0.36	1.00		0.56	1.00		0.70	1.00	
Satd. Flow (perm)	393	3513		663	3501		1045	1689		1272	1697	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	711	68	79	842	89	68	37	47	168	84	126
RTOR Reduction (vph)	0	6	0	0	7	0	0	34	0	0	59	0
Lane Group Flow (vph)	126	773	0	79	924	0	68	50	0	168	151	0
Confl. Peds. (#/hr)	30		20	20		30	20		45	45		20
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	59.3	59.3		47.6	47.6		27.7	27.7		27.7	27.7	
Effective Green, g (s)	59.3	59.3		47.6	47.6		27.7	27.7		27.7	27.7	
Actuated g/C Ratio	0.59	0.59		0.48	0.48		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	354	2083		315	1666		289	467		352	470	
v/s Ratio Prot	0.03	c0.22			c0.26			0.03			0.09	
v/s Ratio Perm	0.18			0.12			0.07			c0.13		
v/c Ratio	0.36	0.37		0.25	0.55		0.24	0.11		0.48	0.32	
Uniform Delay, d1	10.6	10.6		15.6	18.7		28.0	26.9		30.1	28.7	
Progression Factor	1.00	1.00		1.50	1.40		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.5		1.7	1.2		0.4	0.1		1.0	0.4	
Delay (s)	11.2	11.1		25.1	27.2		28.4	27.0		31.1	29.1	
Level of Service	B	B		C	C		C	C		C	C	
Approach Delay (s)		11.1			27.0			27.6			30.0	
Approach LOS		B			C			C			C	

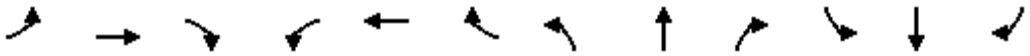
Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	710	40	30	980	55	30	5	15	35	10	30
Future Volume (vph)	20	710	40	30	980	55	30	5	15	35	10	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.5			6.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.99			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.97			0.98	
Satd. Flow (prot)		3528			3528			1751			1735	
Flt Permitted		0.90			0.91			0.80			0.84	
Satd. Flow (perm)		3197			3210			1439			1495	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	755	43	32	1043	59	32	5	16	37	11	32
RTOR Reduction (vph)	0	3	0	0	3	0	0	13	0	0	26	0
Lane Group Flow (vph)	0	816	0	0	1131	0	0	40	0	0	54	0
Confl. Peds. (#/hr)	20		15	15		20	5		10	10		5
Heavy Vehicles (%)	0%	1%	3%	3%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		67.5			67.5			20.0			20.0	
Effective Green, g (s)		67.5			67.5			20.0			20.0	
Actuated g/C Ratio		0.68			0.68			0.20			0.20	
Clearance Time (s)		6.0			6.0			6.5			6.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2157			2166			287			299	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.35			0.03			c0.04	
v/c Ratio		0.38			0.52			0.14			0.18	
Uniform Delay, d1		7.1			8.2			32.9			33.2	
Progression Factor		0.64			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.9			0.2			0.3	
Delay (s)		5.0			9.1			33.1			33.5	
Level of Service		A			A			C			C	
Approach Delay (s)		5.0			9.1			33.1			33.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		

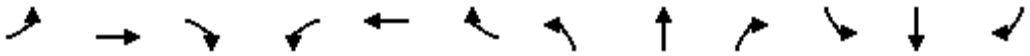
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	590	45	40	515	100	65	70	70	185	50	185
Future Volume (vph)	125	590	45	40	515	100	65	70	70	185	50	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.97		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.98	1.00		0.97	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1746	3461		1727	3405		1737	1694		1726	1591	
Flt Permitted	0.33	1.00		0.39	1.00		0.50	1.00		0.66	1.00	
Satd. Flow (perm)	607	3461		717	3405		906	1694		1204	1591	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	133	628	48	43	548	106	69	74	74	197	53	197
RTOR Reduction (vph)	0	5	0	0	14	0	0	39	0	0	141	0
Lane Group Flow (vph)	133	671	0	43	640	0	69	109	0	197	109	0
Confl. Peds. (#/hr)	20		20	20		20	30		45	45		30
Heavy Vehicles (%)	3%	3%	0%	3%	2%	5%	2%	0%	2%	1%	2%	2%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	58.8	58.8		47.0	47.0		28.2	28.2		28.2	28.2	
Effective Green, g (s)	58.8	58.8		47.0	47.0		28.2	28.2		28.2	28.2	
Actuated g/C Ratio	0.59	0.59		0.47	0.47		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	457	2035		336	1600		255	477		339	448	
v/s Ratio Prot	0.03	c0.19			c0.19			0.06			0.07	
v/s Ratio Perm	0.15			0.06			0.08			c0.16		
v/c Ratio	0.29	0.33		0.13	0.40		0.27	0.23		0.58	0.24	
Uniform Delay, d1	9.7	10.5		14.9	17.3		27.9	27.6		30.8	27.7	
Progression Factor	1.00	1.00		0.89	0.83		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.4		0.7	0.7		0.6	0.2		2.5	0.3	
Delay (s)	10.0	11.0		14.0	15.1		28.5	27.8		33.4	27.9	
Level of Service	B	B		B	B		C	C		C	C	
Approach Delay (s)		10.8			15.1			28.0			30.3	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	780	55	15	515	55	105	15	70	50	5	70
Future Volume (vph)	30	780	55	15	515	55	105	15	70	50	5	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.5			6.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		1.00			1.00			0.99			0.95	
Flpb, ped/bikes		1.00			1.00			0.96			1.00	
Frt		0.99			0.99			0.95			0.92	
Flt Protected		1.00			1.00			0.97			0.98	
Satd. Flow (prot)		3451			3509			1619			1563	
Flt Permitted		0.91			0.92			0.76			0.79	
Satd. Flow (perm)		3158			3237			1259			1256	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	839	59	16	554	59	113	16	75	54	5	75
RTOR Reduction (vph)	0	5	0	0	7	0	0	22	0	0	47	0
Lane Group Flow (vph)	0	925	0	0	622	0	0	182	0	0	87	0
Confl. Peds. (#/hr)	10		20	20		10	70		10	10		70
Heavy Vehicles (%)	19%	2%	8%	0%	1%	0%	3%	8%	4%	0%	17%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		65.3			65.3			22.2			22.2	
Effective Green, g (s)		65.3			65.3			22.2			22.2	
Actuated g/C Ratio		0.65			0.65			0.22			0.22	
Clearance Time (s)		6.0			6.0			6.5			6.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2062			2113			279			278	
v/s Ratio Prot												
v/s Ratio Perm		c0.29			0.19			c0.14			0.07	
v/c Ratio		0.45			0.29			0.65			0.31	
Uniform Delay, d1		8.5			7.5			35.4			32.5	
Progression Factor		0.76			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.4			5.4			0.6	
Delay (s)		7.2			7.8			40.8			33.2	
Level of Service		A			A			D			C	
Approach Delay (s)		7.2			7.8			40.8			33.2	
Approach LOS		A			A			D			C	

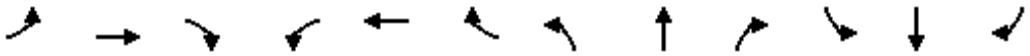
Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	715	65	80	820	100	65	35	50	180	80	120
Future Volume (vph)	120	715	65	80	820	100	65	35	50	180	80	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	0.97		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.96	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.91		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1784	3516		1766	3491		1781	1678		1721	1697	
Flt Permitted	0.19	1.00		0.34	1.00		0.56	1.00		0.70	1.00	
Satd. Flow (perm)	365	3516		636	3491		1048	1678		1265	1697	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	753	68	84	863	105	68	37	53	189	84	126
RTOR Reduction (vph)	0	6	0	0	8	0	0	38	0	0	58	0
Lane Group Flow (vph)	126	815	0	84	960	0	68	52	0	189	152	0
Confl. Peds. (#/hr)	30		20	20		30	20		45	45		20
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2			6			4			8		
Actuated Green, G (s)	59.0	59.0		47.3	47.3		28.0	28.0		28.0	28.0	
Effective Green, g (s)	59.0	59.0		47.3	47.3		28.0	28.0		28.0	28.0	
Actuated g/C Ratio	0.59	0.59		0.47	0.47		0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5		6.5	6.5		6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	338	2074		300	1651		293	469		354	475	
v/s Ratio Prot	0.03	c0.23			c0.27			0.03			0.09	
v/s Ratio Perm	0.19			0.13			0.06			c0.15		
v/c Ratio	0.37	0.39		0.28	0.58		0.23	0.11		0.53	0.32	
Uniform Delay, d1	11.0	10.9		16.0	19.2		27.7	26.7		30.5	28.5	
Progression Factor	1.00	1.00		1.52	1.43		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.6		1.8	1.2		0.4	0.1		1.5	0.4	
Delay (s)	11.7	11.5		26.2	28.6		28.1	26.9		32.0	28.9	
Level of Service	B	B		C	C		C	C		C	C	
Approach Delay (s)		11.5			28.4			27.4			30.4	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

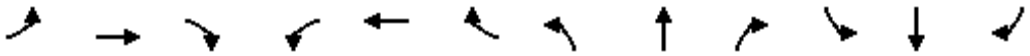


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	710	105	75	980	55	70	5	45	35	10	30
Future Volume (vph)	20	710	105	75	980	55	70	5	45	35	10	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.5			6.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.99			0.95			0.95	
Flt Protected		1.00			1.00			0.97			0.98	
Satd. Flow (prot)		3471			3519			1731			1737	
Flt Permitted		0.91			0.80			0.80			0.83	
Satd. Flow (perm)		3145			2813			1416			1481	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	755	112	80	1043	59	74	5	48	37	11	32
RTOR Reduction (vph)	0	10	0	0	3	0	0	23	0	0	25	0
Lane Group Flow (vph)	0	878	0	0	1179	0	0	104	0	0	55	0
Confl. Peds. (#/hr)	20		15	15		20	5		10	10		5
Heavy Vehicles (%)	0%	1%	3%	3%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		65.5			65.5			22.0			22.0	
Effective Green, g (s)		65.5			65.5			22.0			22.0	
Actuated g/C Ratio		0.66			0.66			0.22			0.22	
Clearance Time (s)		6.0			6.0			6.5			6.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2059			1842			311			325	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.42			c0.07			0.04	
v/c Ratio		0.43			0.64			0.34			0.17	
Uniform Delay, d1		8.3			10.2			32.8			31.6	
Progression Factor		0.64			1.00			1.00			1.00	
Incremental Delay, d2		0.6			1.7			0.6			0.2	
Delay (s)		5.9			12.0			33.5			31.8	
Level of Service		A			B			C			C	
Approach Delay (s)		5.9			12.0			33.5			31.8	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

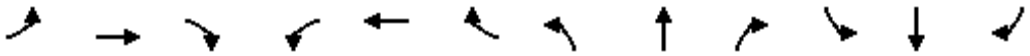
Scenario 2 Synchro Analysis Results
Future Lane Configurations and Existing Signal Timings



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	372	43	39	298	67	65	47	75	151	35	145
Future Volume (vph)	99	372	43	39	298	67	65	47	75	151	35	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.94	1.00	0.95		1.00	0.95	
Flpb, ped/bikes	0.99	1.00	1.00	0.98	1.00	1.00	0.97	1.00		0.94	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1845	1524	1715	1863	1452	1708	1610		1682	1550	
Flt Permitted	0.49	1.00	1.00	0.53	1.00	1.00	0.59	1.00		0.67	1.00	
Satd. Flow (perm)	893	1845	1524	954	1863	1452	1060	1610		1193	1550	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	105	396	46	41	317	71	69	50	80	161	37	154
RTOR Reduction (vph)	0	0	19	0	0	36	0	58	0	0	111	0
Lane Group Flow (vph)	105	396	27	41	317	35	69	72	0	161	80	0
Confl. Peds. (#/hr)	20		20	20		20	30		45	45		30
Heavy Vehicles (%)	3%	3%	0%	3%	2%	5%	2%	0%	2%	1%	2%	2%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	59.3	59.3	59.3	49.4	49.4	49.4	27.7	27.7		27.7	27.7	
Effective Green, g (s)	59.3	59.3	59.3	49.4	49.4	49.4	27.7	27.7		27.7	27.7	
Actuated g/C Ratio	0.59	0.59	0.59	0.49	0.49	0.49	0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	587	1094	903	471	920	717	293	445		330	429	
v/s Ratio Prot	0.01	c0.21			0.17			0.04			0.05	
v/s Ratio Perm	0.09		0.02	0.04		0.02	0.07			c0.13		
v/c Ratio	0.18	0.36	0.03	0.09	0.34	0.05	0.24	0.16		0.49	0.19	
Uniform Delay, d1	9.1	10.5	8.4	13.4	15.4	13.1	28.0	27.4		30.2	27.6	
Progression Factor	1.00	1.00	1.00	0.91	0.87	0.91	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.9	0.1	0.3	1.0	0.1	0.4	0.2		1.1	0.2	
Delay (s)	9.3	11.5	8.5	12.5	14.4	12.0	28.4	27.5		31.4	27.8	
Level of Service	A	B	A	B	B	B	C	C		C	C	
Approach Delay (s)		10.8			13.9			27.8			29.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

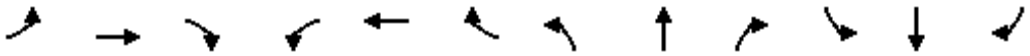
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	511	35	17	327	43	69	15	29	40	15	97
Future Volume (vph)	39	511	35	17	327	43	69	15	29	40	15	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00			1.00	0.96		0.99			0.90	
Flpb, ped/bikes		1.00			1.00	1.00		0.94			1.00	
Frt		0.99			1.00	0.85		0.97			0.91	
Flt Protected		1.00			1.00	1.00		0.97			0.99	
Satd. Flow (prot)		3429			1876	1547		1599			1458	
Flt Permitted		0.90			0.96	1.00		0.69			0.89	
Satd. Flow (perm)		3110			1806	1547		1132			1319	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	42	549	38	18	352	46	74	16	31	43	16	104
RTOR Reduction (vph)	0	4	0	0	0	16	0	13	0	0	66	0
Lane Group Flow (vph)	0	625	0	0	370	30	0	108	0	0	97	0
Confl. Peds. (#/hr)	10		20	20		10	70		10	10		70
Heavy Vehicles (%)	19%	2%	8%	0%	1%	0%	3%	8%	4%	0%	17%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		65.5			65.5	65.5		22.0			22.0	
Effective Green, g (s)		65.5			65.5	65.5		22.0			22.0	
Actuated g/C Ratio		0.66			0.66	0.66		0.22			0.22	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2037			1182	1013		249			290	
v/s Ratio Prot												
v/s Ratio Perm		0.20			c0.20	0.02		c0.10			0.07	
v/c Ratio		0.31			0.31	0.03		0.43			0.33	
Uniform Delay, d1		7.4			7.5	6.1		33.6			32.8	
Progression Factor		0.91			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.4			0.7	0.1		1.2			0.7	
Delay (s)		7.2			8.2	6.1		34.8			33.5	
Level of Service		A			A	A		C			C	
Approach Delay (s)		7.2			8.0			34.8			33.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

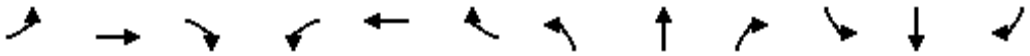
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	441	57	64	521	77	57	23	60	137	53	93
Future Volume (vph)	101	441	57	64	521	77	57	23	60	137	53	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.93	1.00	0.94		1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00	0.97	1.00		0.94	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1780	1881	1524	1752	1881	1495	1760	1585		1676	1663	
Flt Permitted	0.29	1.00	1.00	0.50	1.00	1.00	0.65	1.00		0.70	1.00	
Satd. Flow (perm)	537	1881	1524	916	1881	1495	1209	1585		1236	1663	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	464	60	67	548	81	60	24	63	144	56	98
RTOR Reduction (vph)	0	0	24	0	0	42	0	46	0	0	69	0
Lane Group Flow (vph)	106	464	36	67	548	39	60	41	0	144	85	0
Confl. Peds. (#/hr)	30		20	20		30	20		45	45		20
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	59.4	59.4	59.4	48.1	48.1	48.1	27.6	27.6		27.6	27.6	
Effective Green, g (s)	59.4	59.4	59.4	48.1	48.1	48.1	27.6	27.6		27.6	27.6	
Actuated g/C Ratio	0.59	0.59	0.59	0.48	0.48	0.48	0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	422	1117	905	440	904	719	333	437		341	458	
v/s Ratio Prot	0.02	c0.25			c0.29			0.03			0.05	
v/s Ratio Perm	0.13		0.02	0.07		0.03	0.05			c0.12		
v/c Ratio	0.25	0.42	0.04	0.15	0.61	0.05	0.18	0.09		0.42	0.19	
Uniform Delay, d1	10.9	10.9	8.4	14.5	19.0	13.8	27.6	26.9		29.7	27.6	
Progression Factor	1.00	1.00	1.00	1.60	1.44	3.13	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.1	0.1	0.6	2.6	0.1	0.3	0.1		0.8	0.2	
Delay (s)	11.2	12.1	8.5	23.8	29.9	43.3	27.8	27.0		30.5	27.8	
Level of Service	B	B	A	C	C	D	C	C		C	C	
Approach Delay (s)		11.6			30.9			27.3			29.1	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

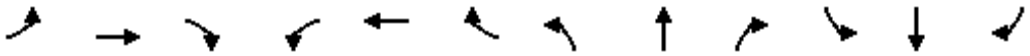
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	464	39	32	641	50	23	3	17	30	7	23
Future Volume (vph)	27	464	39	32	641	50	23	3	17	30	7	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00			1.00	0.94		0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			0.99	
Frt		0.99			1.00	0.85		0.95			0.95	
Flt Protected		1.00			1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3507			1874	1511		1726			1728	
Flt Permitted		0.90			0.96	1.00		0.84			0.84	
Satd. Flow (perm)		3149			1795	1511		1483			1487	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	494	41	34	682	53	24	3	18	32	7	24
RTOR Reduction (vph)	0	5	0	0	0	17	0	14	0	0	19	0
Lane Group Flow (vph)	0	559	0	0	716	36	0	31	0	0	44	0
Confl. Peds. (#/hr)	20		15	15		20	5		10	10		5
Heavy Vehicles (%)	0%	1%	3%	3%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		67.5			67.5	67.5		20.0			20.0	
Effective Green, g (s)		67.5			67.5	67.5		20.0			20.0	
Actuated g/C Ratio		0.68			0.68	0.68		0.20			0.20	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2125			1211	1019		296			297	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.40	0.02		0.02			c0.03	
v/c Ratio		0.26			0.59	0.04		0.10			0.15	
Uniform Delay, d1		6.4			8.8	5.4		32.7			33.0	
Progression Factor		0.79			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.3			2.1	0.1		0.2			0.2	
Delay (s)		5.4			10.9	5.5		32.8			33.2	
Level of Service		A			B	A		C			C	
Approach Delay (s)		5.4			10.5			32.8			33.2	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

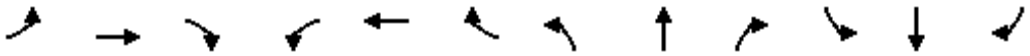
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	570	45	35	470	75	65	70	65	180	50	185
Future Volume (vph)	125	570	45	35	470	75	65	70	65	180	50	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.94	1.00	0.96		1.00	0.95	
Flpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00	0.97	1.00		0.94	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1746	1845	1524	1726	1863	1452	1716	1671		1684	1557	
Flt Permitted	0.32	1.00	1.00	0.41	1.00	1.00	0.49	1.00		0.67	1.00	
Satd. Flow (perm)	586	1845	1524	748	1863	1452	893	1671		1180	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	133	606	48	37	500	80	69	74	69	191	53	197
RTOR Reduction (vph)	0	0	20	0	0	42	0	36	0	0	142	0
Lane Group Flow (vph)	133	606	28	37	500	38	69	107	0	191	108	0
Confl. Peds. (#/hr)	20		20	20		20	30		45	45		30
Heavy Vehicles (%)	3%	3%	0%	3%	2%	5%	2%	0%	2%	1%	2%	2%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	58.9	58.9	58.9	47.1	47.1	47.1	28.1	28.1		28.1	28.1	
Effective Green, g (s)	58.9	58.9	58.9	47.1	47.1	47.1	28.1	28.1		28.1	28.1	
Actuated g/C Ratio	0.59	0.59	0.59	0.47	0.47	0.47	0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	447	1086	897	352	877	683	250	469		331	437	
v/s Ratio Prot	0.03	c0.33			0.27			0.06			0.07	
v/s Ratio Perm	0.15		0.02	0.05		0.03	0.08			c0.16		
v/c Ratio	0.30	0.56	0.03	0.11	0.57	0.06	0.28	0.23		0.58	0.25	
Uniform Delay, d1	10.8	12.6	8.6	14.7	19.1	14.4	28.0	27.6		30.9	27.8	
Progression Factor	1.00	1.00	1.00	1.36	1.24	2.31	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	2.1	0.1	0.6	2.5	0.1	0.6	0.2		2.4	0.3	
Delay (s)	11.2	14.7	8.7	20.6	26.1	33.4	28.6	27.9		33.3	28.1	
Level of Service	B	B	A	C	C	C	C	C		C	C	
Approach Delay (s)		13.7			26.7			28.1			30.3	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		

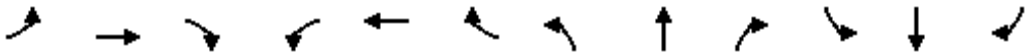
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	780	25	5	515	55	30	15	30	50	5	70
Future Volume (vph)	30	780	25	5	515	55	30	15	30	50	5	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00			1.00	0.96		0.99			0.91	
Flpb, ped/bikes		1.00			1.00	1.00		0.96			1.00	
Frt		1.00			1.00	0.85		0.95			0.92	
Flt Protected		1.00			1.00	1.00		0.98			0.98	
Satd. Flow (prot)		3482			1880	1547		1600			1503	
Flt Permitted		0.92			0.99	1.00		0.85			0.84	
Satd. Flow (perm)		3205			1868	1547		1390			1286	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	839	27	5	554	59	32	16	32	54	5	75
RTOR Reduction (vph)	0	2	0	0	0	20	0	25	0	0	48	0
Lane Group Flow (vph)	0	896	0	0	559	39	0	55	0	0	86	0
Confl. Peds. (#/hr)	10		20	20		10	70		10	10		70
Heavy Vehicles (%)	19%	2%	8%	0%	1%	0%	3%	8%	4%	0%	17%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		65.5			65.5	65.5		22.0			22.0	
Effective Green, g (s)		65.5			65.5	65.5		22.0			22.0	
Actuated g/C Ratio		0.66			0.66	0.66		0.22			0.22	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2099			1223	1013		305			282	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.30	0.02		0.04			c0.07	
v/c Ratio		0.43			0.46	0.04		0.18			0.31	
Uniform Delay, d1		8.3			8.5	6.1		31.7			32.6	
Progression Factor		0.75			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.6			1.2	0.1		0.3			0.6	
Delay (s)		6.8			9.7	6.2		32.0			33.2	
Level of Service		A			A	A		C			C	
Approach Delay (s)		6.8			9.4			32.0			33.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	675	65	75	800	85	65	35	45	160	80	120
Future Volume (vph)	120	675	65	75	800	85	65	35	45	160	80	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.93	1.00	0.95		1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	0.98	1.00		0.94	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1881	1524	1766	1881	1495	1765	1654		1675	1676	
Flt Permitted	0.08	1.00	1.00	0.32	1.00	1.00	0.56	1.00		0.70	1.00	
Satd. Flow (perm)	149	1881	1524	604	1881	1495	1037	1654		1239	1676	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	711	68	79	842	89	68	37	47	168	84	126
RTOR Reduction (vph)	0	0	28	0	0	42	0	34	0	0	58	0
Lane Group Flow (vph)	126	711	40	79	842	47	68	50	0	168	152	0
Confl. Peds. (#/hr)	30		20	20		30	20		45	45		20
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	59.2	59.2	59.2	47.5	47.5	47.5	27.8	27.8		27.8	27.8	
Effective Green, g (s)	59.2	59.2	59.2	47.5	47.5	47.5	27.8	27.8		27.8	27.8	
Actuated g/C Ratio	0.59	0.59	0.59	0.48	0.48	0.48	0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1113	902	286	893	710	288	459		344	465	
v/s Ratio Prot	0.05	c0.38			c0.45			0.03			0.09	
v/s Ratio Perm	0.28		0.03	0.13		0.03	0.07			c0.14		
v/c Ratio	0.55	0.64	0.04	0.28	0.94	0.07	0.24	0.11		0.49	0.33	
Uniform Delay, d1	19.4	13.4	8.5	15.9	25.0	14.2	27.9	26.9		30.2	28.7	
Progression Factor	1.00	1.00	1.00	1.55	1.39	2.63	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	2.8	0.1	1.3	12.5	0.1	0.4	0.1		1.1	0.4	
Delay (s)	22.1	16.2	8.6	26.0	47.3	37.5	28.3	27.0		31.3	29.1	
Level of Service	C	B	A	C	D	D	C	C		C	C	
Approach Delay (s)		16.4			44.7			27.6			30.0	
Approach LOS		B			D			C			C	

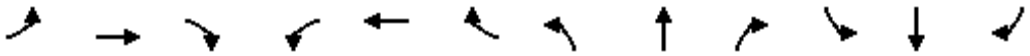
Intersection Summary			
HCM 2000 Control Delay	30.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	710	40	30	980	55	30	5	15	35	10	30
Future Volume (vph)	20	710	40	30	980	55	30	5	15	35	10	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00			1.00	0.94		0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		0.99			0.99	
Frt		0.99			1.00	0.85		0.96			0.95	
Flt Protected		1.00			1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3529			1877	1511		1747			1727	
Flt Permitted		0.84			0.96	1.00		0.80			0.84	
Satd. Flow (perm)		2972			1804	1511		1436			1488	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	755	43	32	1043	59	32	5	16	37	11	32
RTOR Reduction (vph)	0	3	0	0	0	19	0	13	0	0	26	0
Lane Group Flow (vph)	0	816	0	0	1075	40	0	40	0	0	54	0
Confl. Peds. (#/hr)	20		15	15		20	5		10	10		5
Heavy Vehicles (%)	0%	1%	3%	3%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		67.5			67.5	67.5		20.0			20.0	
Effective Green, g (s)		67.5			67.5	67.5		20.0			20.0	
Actuated g/C Ratio		0.68			0.68	0.68		0.20			0.20	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2006			1217	1019		287			297	
v/s Ratio Prot												
v/s Ratio Perm		0.27			c0.60	0.03		0.03			c0.04	
v/c Ratio		0.41			0.88	0.04		0.14			0.18	
Uniform Delay, d1		7.3			13.1	5.4		32.9			33.2	
Progression Factor		0.61			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.5			9.5	0.1		0.2			0.3	
Delay (s)		5.0			22.6	5.5		33.1			33.5	
Level of Service		A			C	A		C			C	
Approach Delay (s)		5.0			21.7			33.1			33.5	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

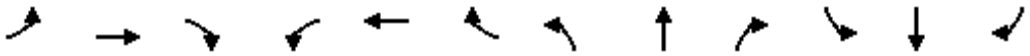
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	590	45	40	515	100	65	70	70	185	50	185
Future Volume (vph)	125	590	45	40	515	100	65	70	70	185	50	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.94	1.00	0.96		1.00	0.95	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	0.97	1.00		0.94	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1748	1845	1524	1727	1863	1452	1716	1663		1685	1557	
Flt Permitted	0.28	1.00	1.00	0.39	1.00	1.00	0.50	1.00		0.66	1.00	
Satd. Flow (perm)	512	1845	1524	713	1863	1452	894	1663		1175	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	133	628	48	43	548	106	69	74	74	197	53	197
RTOR Reduction (vph)	0	0	20	0	0	56	0	39	0	0	141	0
Lane Group Flow (vph)	133	628	28	43	548	50	69	109	0	197	109	0
Confl. Peds. (#/hr)	20		20	20		20	30		45	45		30
Heavy Vehicles (%)	3%	3%	0%	3%	2%	5%	2%	0%	2%	1%	2%	2%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	58.8	58.8	58.8	47.0	47.0	47.0	28.2	28.2		28.2	28.2	
Effective Green, g (s)	58.8	58.8	58.8	47.0	47.0	47.0	28.2	28.2		28.2	28.2	
Actuated g/C Ratio	0.59	0.59	0.59	0.47	0.47	0.47	0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	409	1084	896	335	875	682	252	468		331	439	
v/s Ratio Prot	0.03	c0.34			c0.29			0.07			0.07	
v/s Ratio Perm	0.16		0.02	0.06		0.03	0.08			c0.17		
v/c Ratio	0.33	0.58	0.03	0.13	0.63	0.07	0.27	0.23		0.60	0.25	
Uniform Delay, d1	11.5	12.9	8.6	14.9	19.9	14.5	27.9	27.6		31.0	27.7	
Progression Factor	1.00	1.00	1.00	1.25	1.14	1.99	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.3	0.1	0.7	3.0	0.2	0.6	0.3		2.9	0.3	
Delay (s)	12.0	15.1	8.7	19.3	25.6	29.2	28.5	27.8		33.8	28.0	
Level of Service	B	B	A	B	C	C	C	C		C	C	
Approach Delay (s)		14.2			25.8			28.1			30.6	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

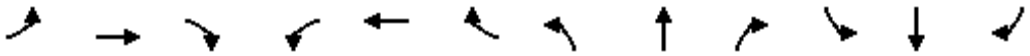
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	780	55	15	515	55	105	15	70	50	5	70
Future Volume (vph)	30	780	55	15	515	55	105	15	70	50	5	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00			1.00	0.96		0.99			0.91	
Flpb, ped/bikes		1.00			1.00	1.00		0.94			1.00	
Frt		0.99			1.00	0.85		0.95			0.92	
Flt Protected		1.00			1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3452			1879	1547		1579			1505	
Flt Permitted		0.92			0.97	1.00		0.76			0.79	
Satd. Flow (perm)		3178			1816	1547		1228			1210	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	839	59	16	554	59	113	16	75	54	5	75
RTOR Reduction (vph)	0	5	0	0	0	21	0	22	0	0	47	0
Lane Group Flow (vph)	0	925	0	0	570	38	0	182	0	0	87	0
Confl. Peds. (#/hr)	10		20	20		10	70		10	10		70
Heavy Vehicles (%)	19%	2%	8%	0%	1%	0%	3%	8%	4%	0%	17%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		65.2			65.2	65.2		22.3			22.3	
Effective Green, g (s)		65.2			65.2	65.2		22.3			22.3	
Actuated g/C Ratio		0.65			0.65	0.65		0.22			0.22	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2072			1184	1008		273			269	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.31	0.02		c0.15			0.07	
v/c Ratio		0.45			0.48	0.04		0.67			0.32	
Uniform Delay, d1		8.5			8.8	6.2		35.5			32.5	
Progression Factor		0.74			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.6			1.4	0.1		6.1			0.7	
Delay (s)		6.9			10.2	6.3		41.5			33.2	
Level of Service		A			B	A		D			C	
Approach Delay (s)		6.9			9.9			41.5			33.2	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	715	65	80	820	100	65	35	50	180	80	120
Future Volume (vph)	120	715	65	80	820	100	65	35	50	180	80	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.93	1.00	0.95		1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	0.98	1.00		0.94	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1881	1524	1769	1881	1495	1765	1641		1676	1676	
Flt Permitted	0.08	1.00	1.00	0.29	1.00	1.00	0.56	1.00		0.70	1.00	
Satd. Flow (perm)	150	1881	1524	538	1881	1495	1039	1641		1233	1676	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	753	68	84	863	105	68	37	53	189	84	126
RTOR Reduction (vph)	0	0	28	0	0	48	0	38	0	0	58	0
Lane Group Flow (vph)	126	753	40	84	863	57	68	52	0	189	152	0
Confl. Peds. (#/hr)	30		20	20		30	20		45	45		20
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	59.0	59.0	59.0	47.3	47.3	47.3	28.0	28.0		28.0	28.0	
Effective Green, g (s)	59.0	59.0	59.0	47.3	47.3	47.3	28.0	28.0		28.0	28.0	
Actuated g/C Ratio	0.59	0.59	0.59	0.47	0.47	0.47	0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	1109	899	254	889	707	290	459		345	469	
v/s Ratio Prot	0.05	c0.40			c0.46			0.03			0.09	
v/s Ratio Perm	0.28		0.03	0.16		0.04	0.07			c0.15		
v/c Ratio	0.55	0.68	0.04	0.33	0.97	0.08	0.23	0.11		0.55	0.32	
Uniform Delay, d1	20.2	14.0	8.6	16.5	25.7	14.4	27.7	26.8		30.6	28.5	
Progression Factor	1.00	1.00	1.00	1.47	1.35	2.43	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	3.4	0.1	0.9	10.1	0.1	0.4	0.1		1.8	0.4	
Delay (s)	22.8	17.4	8.7	25.2	44.7	35.1	28.2	26.9		32.4	28.9	
Level of Service	C	B	A	C	D	D	C	C		C	C	
Approach Delay (s)		17.5			42.2			27.4			30.6	
Approach LOS		B			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		

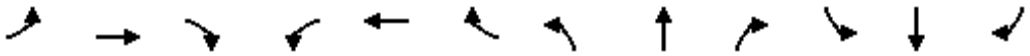
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	710	105	75	980	55	70	5	45	35	10	30
Future Volume (vph)	20	710	105	75	980	55	70	5	45	35	10	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.99			1.00	0.94		0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		0.99			1.00	
Frt		0.98			1.00	0.85		0.95			0.95	
Flt Protected		1.00			1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3471			1871	1511		1727			1728	
Flt Permitted		0.77			0.87	1.00		0.80			0.83	
Satd. Flow (perm)		2690			1636	1511		1413			1474	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	755	112	80	1043	59	74	5	48	37	11	32
RTOR Reduction (vph)	0	10	0	0	0	19	0	23	0	0	25	0
Lane Group Flow (vph)	0	878	0	0	1123	40	0	104	0	0	55	0
Confl. Peds. (#/hr)	20		15	15		20	5		10	10		5
Heavy Vehicles (%)	0%	1%	3%	3%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		65.5			65.5	65.5		22.0			22.0	
Effective Green, g (s)		65.5			65.5	65.5		22.0			22.0	
Actuated g/C Ratio		0.66			0.66	0.66		0.22			0.22	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		1761			1071	989		310			324	
v/s Ratio Prot												
v/s Ratio Perm		0.33			c0.69	0.03		c0.07			0.04	
v/c Ratio		0.50			1.05	0.04		0.34			0.17	
Uniform Delay, d1		8.8			17.2	6.1		32.9			31.6	
Progression Factor		0.60			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.8			41.1	0.1		0.6			0.2	
Delay (s)		6.1			58.4	6.2		33.5			31.9	
Level of Service		A			E	A		C			C	
Approach Delay (s)		6.1			55.8			33.5			31.9	
Approach LOS		A			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

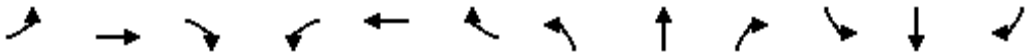
Scenario 3 Synchro Analysis Results
Future Lane Configurations and Future Signal Timings



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	372	43	39	298	67	65	47	75	151	35	145
Future Volume (vph)	99	372	43	39	298	67	65	47	75	151	35	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.94	1.00	0.95		1.00	0.95	
Flpb, ped/bikes	0.99	1.00	1.00	0.98	1.00	1.00	0.97	1.00		0.94	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1845	1524	1715	1863	1452	1708	1610		1682	1550	
Flt Permitted	0.49	1.00	1.00	0.53	1.00	1.00	0.59	1.00		0.67	1.00	
Satd. Flow (perm)	893	1845	1524	954	1863	1452	1060	1610		1193	1550	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	105	396	46	41	317	71	69	50	80	161	37	154
RTOR Reduction (vph)	0	0	19	0	0	36	0	58	0	0	111	0
Lane Group Flow (vph)	105	396	27	41	317	35	69	72	0	161	80	0
Confl. Peds. (#/hr)	20		20	20		20	30		45	45		30
Heavy Vehicles (%)	3%	3%	0%	3%	2%	5%	2%	0%	2%	1%	2%	2%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	59.3	59.3	59.3	49.4	49.4	49.4	27.7	27.7		27.7	27.7	
Effective Green, g (s)	59.3	59.3	59.3	49.4	49.4	49.4	27.7	27.7		27.7	27.7	
Actuated g/C Ratio	0.59	0.59	0.59	0.49	0.49	0.49	0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	587	1094	903	471	920	717	293	445		330	429	
v/s Ratio Prot	0.01	c0.21			0.17			0.04			0.05	
v/s Ratio Perm	0.09		0.02	0.04		0.02	0.07			c0.13		
v/c Ratio	0.18	0.36	0.03	0.09	0.34	0.05	0.24	0.16		0.49	0.19	
Uniform Delay, d1	9.1	10.5	8.4	13.4	15.4	13.1	28.0	27.4		30.2	27.6	
Progression Factor	1.00	1.00	1.00	0.91	0.87	0.91	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.9	0.1	0.3	1.0	0.1	0.4	0.2		1.1	0.2	
Delay (s)	9.3	11.5	8.5	12.5	14.4	12.0	28.4	27.5		31.4	27.8	
Level of Service	A	B	A	B	B	B	C	C		C	C	
Approach Delay (s)		10.8			13.9			27.8			29.4	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		

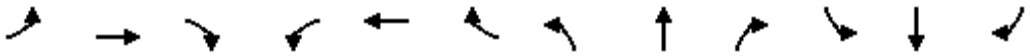
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	511	35	17	327	43	69	15	29	40	15	97
Future Volume (vph)	39	511	35	17	327	43	69	15	29	40	15	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00			1.00	0.96		0.99			0.90	
Flpb, ped/bikes		1.00			1.00	1.00		0.94			1.00	
Frt		0.99			1.00	0.85		0.97			0.91	
Flt Protected		1.00			1.00	1.00		0.97			0.99	
Satd. Flow (prot)		3429			1876	1547		1599			1458	
Flt Permitted		0.90			0.96	1.00		0.69			0.89	
Satd. Flow (perm)		3110			1806	1547		1132			1319	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	42	549	38	18	352	46	74	16	31	43	16	104
RTOR Reduction (vph)	0	4	0	0	0	16	0	13	0	0	66	0
Lane Group Flow (vph)	0	625	0	0	370	30	0	108	0	0	97	0
Confl. Peds. (#/hr)	10		20	20		10	70		10	10		70
Heavy Vehicles (%)	19%	2%	8%	0%	1%	0%	3%	8%	4%	0%	17%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		65.5			65.5	65.5		22.0			22.0	
Effective Green, g (s)		65.5			65.5	65.5		22.0			22.0	
Actuated g/C Ratio		0.66			0.66	0.66		0.22			0.22	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2037			1182	1013		249			290	
v/s Ratio Prot												
v/s Ratio Perm		0.20			c0.20	0.02		c0.10			0.07	
v/c Ratio		0.31			0.31	0.03		0.43			0.33	
Uniform Delay, d1		7.4			7.5	6.1		33.6			32.8	
Progression Factor		0.91			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.4			0.7	0.1		1.2			0.7	
Delay (s)		7.2			8.2	6.1		34.8			33.5	
Level of Service		A			A	A		C			C	
Approach Delay (s)		7.2			8.0			34.8			33.5	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

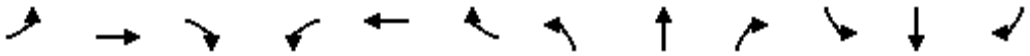
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	441	57	64	521	77	57	23	60	137	53	93
Future Volume (vph)	101	441	57	64	521	77	57	23	60	137	53	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.91	1.00	0.93		1.00	0.96	
Flpb, ped/bikes	0.99	1.00	1.00	0.98	1.00	1.00	0.97	1.00		0.93	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89		1.00	0.90	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1776	1881	1512	1745	1881	1477	1752	1568		1654	1657	
Flt Permitted	0.34	1.00	1.00	0.50	1.00	1.00	0.61	1.00		0.70	1.00	
Satd. Flow (perm)	635	1881	1512	912	1881	1477	1124	1568		1219	1657	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	106	464	60	67	548	81	60	24	63	144	56	98
RTOR Reduction (vph)	0	0	20	0	0	34	0	48	0	0	55	0
Lane Group Flow (vph)	106	464	40	67	548	47	60	39	0	144	99	0
Confl. Peds. (#/hr)	30		20	20		30	20		45	45		20
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	79.1	79.1	79.1	69.1	69.1	69.1	27.9	27.9		27.9	27.9	
Effective Green, g (s)	79.1	79.1	79.1	69.1	69.1	69.1	27.9	27.9		27.9	27.9	
Actuated g/C Ratio	0.66	0.66	0.66	0.58	0.58	0.58	0.23	0.23		0.23	0.23	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	485	1239	996	525	1083	850	261	364		283	385	
v/s Ratio Prot	0.01	c0.25			c0.29			0.02			0.06	
v/s Ratio Perm	0.13		0.03	0.07		0.03	0.05			c0.12		
v/c Ratio	0.22	0.37	0.04	0.13	0.51	0.05	0.23	0.11		0.51	0.26	
Uniform Delay, d1	9.1	9.3	7.2	11.7	15.2	11.1	37.3	36.2		40.1	37.6	
Progression Factor	1.00	1.00	1.00	0.96	0.85	0.93	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.9	0.1	0.4	1.5	0.1	0.5	0.1		1.4	0.4	
Delay (s)	9.3	10.1	7.2	11.6	14.4	10.5	37.8	36.4		41.5	37.9	
Level of Service	A	B	A	B	B	B	D	D		D	D	
Approach Delay (s)		9.7			13.7			36.9			39.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

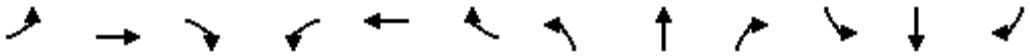
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	464	39	32	641	50	23	3	17	30	7	23
Future Volume (vph)	27	464	39	32	641	50	23	3	17	30	7	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00			1.00	0.93		0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		0.99			0.99	
Frt		0.99			1.00	0.85		0.95			0.95	
Flt Protected		1.00			1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3505			1873	1496		1722			1724	
Flt Permitted		0.89			0.95	1.00		0.83			0.83	
Satd. Flow (perm)		3133			1792	1496		1466			1470	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	29	494	41	34	682	53	24	3	18	32	7	24
RTOR Reduction (vph)	0	4	0	0	0	14	0	15	0	0	19	0
Lane Group Flow (vph)	0	560	0	0	716	39	0	30	0	0	44	0
Confl. Peds. (#/hr)	20		15	15		20	5		10	10		5
Heavy Vehicles (%)	0%	1%	3%	3%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		87.5			87.5	87.5		20.0			20.0	
Effective Green, g (s)		87.5			87.5	87.5		20.0			20.0	
Actuated g/C Ratio		0.73			0.73	0.73		0.17			0.17	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2284			1306	1090		244			245	
v/s Ratio Prot												
v/s Ratio Perm		0.18			c0.40	0.03		0.02			c0.03	
v/c Ratio		0.25			0.55	0.04		0.12			0.18	
Uniform Delay, d1		5.4			7.3	4.5		42.5			42.9	
Progression Factor		0.88			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.2			1.7	0.1		0.2			0.4	
Delay (s)		4.9			9.0	4.6		42.8			43.3	
Level of Service		A			A	A		D			D	
Approach Delay (s)		4.9			8.7			42.8			43.3	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

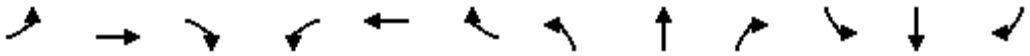
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	570	45	35	470	75	65	70	65	180	50	185
Future Volume (vph)	125	570	45	35	470	75	65	70	65	180	50	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.94	1.00	0.96		1.00	0.95	
Flpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00	0.97	1.00		0.94	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1746	1845	1524	1726	1863	1452	1716	1671		1684	1557	
Flt Permitted	0.32	1.00	1.00	0.41	1.00	1.00	0.49	1.00		0.67	1.00	
Satd. Flow (perm)	586	1845	1524	748	1863	1452	893	1671		1180	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	133	606	48	37	500	80	69	74	69	191	53	197
RTOR Reduction (vph)	0	0	20	0	0	42	0	36	0	0	142	0
Lane Group Flow (vph)	133	606	28	37	500	38	69	107	0	191	108	0
Confl. Peds. (#/hr)	20		20	20		20	30		45	45		30
Heavy Vehicles (%)	3%	3%	0%	3%	2%	5%	2%	0%	2%	1%	2%	2%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	58.9	58.9	58.9	47.1	47.1	47.1	28.1	28.1		28.1	28.1	
Effective Green, g (s)	58.9	58.9	58.9	47.1	47.1	47.1	28.1	28.1		28.1	28.1	
Actuated g/C Ratio	0.59	0.59	0.59	0.47	0.47	0.47	0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	447	1086	897	352	877	683	250	469		331	437	
v/s Ratio Prot	0.03	c0.33			0.27			0.06			0.07	
v/s Ratio Perm	0.15		0.02	0.05		0.03	0.08			c0.16		
v/c Ratio	0.30	0.56	0.03	0.11	0.57	0.06	0.28	0.23		0.58	0.25	
Uniform Delay, d1	10.8	12.6	8.6	14.7	19.1	14.4	28.0	27.6		30.9	27.8	
Progression Factor	1.00	1.00	1.00	1.36	1.24	2.31	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	2.1	0.1	0.6	2.5	0.1	0.6	0.2		2.4	0.3	
Delay (s)	11.2	14.7	8.7	20.6	26.1	33.4	28.6	27.9		33.3	28.1	
Level of Service	B	B	A	C	C	C	C	C		C	C	
Approach Delay (s)		13.7			26.7			28.1			30.3	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		

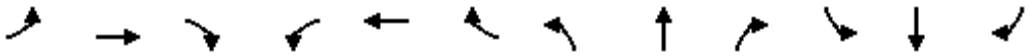
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	780	25	5	515	55	30	15	30	50	5	70
Future Volume (vph)	30	780	25	5	515	55	30	15	30	50	5	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00			1.00	0.96		0.99			0.91	
Flpb, ped/bikes		1.00			1.00	1.00		0.96			1.00	
Frt		1.00			1.00	0.85		0.95			0.92	
Flt Protected		1.00			1.00	1.00		0.98			0.98	
Satd. Flow (prot)		3482			1880	1547		1600			1503	
Flt Permitted		0.92			0.99	1.00		0.85			0.84	
Satd. Flow (perm)		3205			1868	1547		1390			1286	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	839	27	5	554	59	32	16	32	54	5	75
RTOR Reduction (vph)	0	2	0	0	0	20	0	25	0	0	48	0
Lane Group Flow (vph)	0	896	0	0	559	39	0	55	0	0	86	0
Confl. Peds. (#/hr)	10		20	20		10	70		10	10		70
Heavy Vehicles (%)	19%	2%	8%	0%	1%	0%	3%	8%	4%	0%	17%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		65.5			65.5	65.5		22.0			22.0	
Effective Green, g (s)		65.5			65.5	65.5		22.0			22.0	
Actuated g/C Ratio		0.66			0.66	0.66		0.22			0.22	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2099			1223	1013		305			282	
v/s Ratio Prot												
v/s Ratio Perm		0.28			c0.30	0.02		0.04			c0.07	
v/c Ratio		0.43			0.46	0.04		0.18			0.31	
Uniform Delay, d1		8.3			8.5	6.1		31.7			32.6	
Progression Factor		0.75			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.6			1.2	0.1		0.3			0.6	
Delay (s)		6.8			9.7	6.2		32.0			33.2	
Level of Service		A			A	A		C			C	
Approach Delay (s)		6.8			9.4			32.0			33.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	675	65	75	800	85	65	35	45	160	80	120
Future Volume (vph)	120	675	65	75	800	85	65	35	45	160	80	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.91	1.00	0.94		1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	0.97	1.00		0.92	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1881	1512	1763	1881	1477	1759	1641		1653	1670	
Flt Permitted	0.15	1.00	1.00	0.34	1.00	1.00	0.50	1.00		0.70	1.00	
Satd. Flow (perm)	277	1881	1512	622	1881	1477	929	1641		1222	1670	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	711	68	79	842	89	68	37	47	168	84	126
RTOR Reduction (vph)	0	0	23	0	0	36	0	36	0	0	47	0
Lane Group Flow (vph)	126	711	45	79	842	53	68	48	0	168	163	0
Confl. Peds. (#/hr)	30		20	20		30	20		45	45		20
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	78.8	78.8	78.8	68.8	68.8	68.8	28.2	28.2		28.2	28.2	
Effective Green, g (s)	78.8	78.8	78.8	68.8	68.8	68.8	28.2	28.2		28.2	28.2	
Actuated g/C Ratio	0.66	0.66	0.66	0.57	0.57	0.57	0.23	0.23		0.23	0.23	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	269	1235	992	356	1078	846	218	385		287	392	
v/s Ratio Prot	0.03	c0.38			c0.45			0.03			0.10	
v/s Ratio Perm	0.28		0.03	0.13		0.04	0.07			c0.14		
v/c Ratio	0.47	0.58	0.05	0.22	0.78	0.06	0.31	0.12		0.59	0.42	
Uniform Delay, d1	16.5	11.4	7.3	12.5	19.8	11.3	37.9	36.2		40.7	38.9	
Progression Factor	1.00	1.00	1.00	1.31	1.06	2.23	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	2.0	0.1	0.9	3.6	0.1	0.8	0.1		3.0	0.7	
Delay (s)	17.8	13.3	7.4	17.3	24.5	25.4	38.7	36.3		43.7	39.6	
Level of Service	B	B	A	B	C	C	D	D		D	D	
Approach Delay (s)		13.5			24.0			37.4			41.5	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	710	40	30	980	55	30	5	15	35	10	30
Future Volume (vph)	20	710	40	30	980	55	30	5	15	35	10	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00			1.00	0.93		0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		0.99			0.99	
Frt		0.99			1.00	0.85		0.96			0.95	
Flt Protected		1.00			1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3528			1877	1496		1744			1724	
Flt Permitted		0.89			0.96	1.00		0.81			0.83	
Satd. Flow (perm)		3138			1801	1496		1456			1472	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	755	43	32	1043	59	32	5	16	37	11	32
RTOR Reduction (vph)	0	3	0	0	0	16	0	13	0	0	21	0
Lane Group Flow (vph)	0	816	0	0	1075	43	0	40	0	0	59	0
Confl. Peds. (#/hr)	20		15	15		20	5		10	10		5
Heavy Vehicles (%)	0%	1%	3%	3%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		87.5			87.5	87.5		20.0			20.0	
Effective Green, g (s)		87.5			87.5	87.5		20.0			20.0	
Actuated g/C Ratio		0.73			0.73	0.73		0.17			0.17	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2288			1313	1090		242			245	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.60	0.03		0.03			c0.04	
v/c Ratio		0.36			0.82	0.04		0.16			0.24	
Uniform Delay, d1		5.9			10.9	4.5		42.8			43.4	
Progression Factor		0.72			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.4			5.8	0.1		0.3			0.5	
Delay (s)		4.7			16.7	4.6		43.2			43.9	
Level of Service		A			B	A		D			D	
Approach Delay (s)		4.7			16.1			43.2			43.9	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	98.1%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	590	45	40	515	100	65	70	70	185	50	185
Future Volume (vph)	125	590	45	40	515	100	65	70	70	185	50	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.94	1.00	0.96		1.00	0.95	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	0.97	1.00		0.94	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93		1.00	0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1748	1845	1524	1727	1863	1452	1716	1663		1685	1557	
Flt Permitted	0.28	1.00	1.00	0.39	1.00	1.00	0.50	1.00		0.66	1.00	
Satd. Flow (perm)	512	1845	1524	713	1863	1452	894	1663		1175	1557	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	133	628	48	43	548	106	69	74	74	197	53	197
RTOR Reduction (vph)	0	0	20	0	0	56	0	39	0	0	141	0
Lane Group Flow (vph)	133	628	28	43	548	50	69	109	0	197	109	0
Confl. Peds. (#/hr)	20		20	20		20	30		45	45		30
Heavy Vehicles (%)	3%	3%	0%	3%	2%	5%	2%	0%	2%	1%	2%	2%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	58.8	58.8	58.8	47.0	47.0	47.0	28.2	28.2		28.2	28.2	
Effective Green, g (s)	58.8	58.8	58.8	47.0	47.0	47.0	28.2	28.2		28.2	28.2	
Actuated g/C Ratio	0.59	0.59	0.59	0.47	0.47	0.47	0.28	0.28		0.28	0.28	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	409	1084	896	335	875	682	252	468		331	439	
v/s Ratio Prot	0.03	c0.34			c0.29			0.07			0.07	
v/s Ratio Perm	0.16		0.02	0.06		0.03	0.08			c0.17		
v/c Ratio	0.33	0.58	0.03	0.13	0.63	0.07	0.27	0.23		0.60	0.25	
Uniform Delay, d1	11.5	12.9	8.6	14.9	19.9	14.5	27.9	27.6		31.0	27.7	
Progression Factor	1.00	1.00	1.00	1.25	1.14	1.99	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.3	0.1	0.7	3.0	0.2	0.6	0.3		2.9	0.3	
Delay (s)	12.0	15.1	8.7	19.3	25.6	29.2	28.5	27.8		33.8	28.0	
Level of Service	B	B	A	B	C	C	C	C		C	C	
Approach Delay (s)		14.2			25.8			28.1			30.6	
Approach LOS		B			C			C			C	

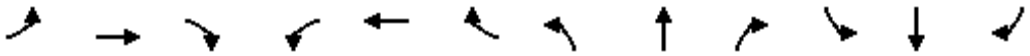
Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	780	55	15	515	55	105	15	70	50	5	70
Future Volume (vph)	30	780	55	15	515	55	105	15	70	50	5	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		1.00			1.00	0.96		0.99			0.91	
Flpb, ped/bikes		1.00			1.00	1.00		0.94			1.00	
Frt		0.99			1.00	0.85		0.95			0.92	
Flt Protected		1.00			1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3452			1879	1547		1579			1505	
Flt Permitted		0.92			0.97	1.00		0.76			0.79	
Satd. Flow (perm)		3178			1816	1547		1228			1210	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	32	839	59	16	554	59	113	16	75	54	5	75
RTOR Reduction (vph)	0	5	0	0	0	21	0	22	0	0	47	0
Lane Group Flow (vph)	0	925	0	0	570	38	0	182	0	0	87	0
Confl. Peds. (#/hr)	10		20	20		10	70		10	10		70
Heavy Vehicles (%)	19%	2%	8%	0%	1%	0%	3%	8%	4%	0%	17%	6%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		65.2			65.2	65.2		22.3			22.3	
Effective Green, g (s)		65.2			65.2	65.2		22.3			22.3	
Actuated g/C Ratio		0.65			0.65	0.65		0.22			0.22	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2072			1184	1008		273			269	
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.31	0.02		c0.15			0.07	
v/c Ratio		0.45			0.48	0.04		0.67			0.32	
Uniform Delay, d1		8.5			8.8	6.2		35.5			32.5	
Progression Factor		0.74			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.6			1.4	0.1		6.1			0.7	
Delay (s)		6.9			10.2	6.3		41.5			33.2	
Level of Service		A			B	A		D			C	
Approach Delay (s)		6.9			9.9			41.5			33.2	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	715	65	80	820	100	65	35	50	180	80	120
Future Volume (vph)	120	715	65	80	820	100	65	35	50	180	80	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.91	1.00	0.94		1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	0.97	1.00		0.93	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.91		1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1787	1881	1512	1766	1881	1477	1759	1627		1654	1670	
Flt Permitted	0.13	1.00	1.00	0.31	1.00	1.00	0.50	1.00		0.70	1.00	
Satd. Flow (perm)	248	1881	1512	568	1881	1477	933	1627		1216	1670	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	126	753	68	84	863	105	68	37	53	189	84	126
RTOR Reduction (vph)	0	0	24	0	0	42	0	40	0	0	47	0
Lane Group Flow (vph)	126	753	44	84	863	63	68	50	0	189	163	0
Confl. Peds. (#/hr)	30		20	20		30	20		45	45		20
Heavy Vehicles (%)	1%	1%	0%	1%	1%	0%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	5	2			6			4			8	
Permitted Phases	2		2	6		6	4			8		
Actuated Green, G (s)	78.5	78.5	78.5	68.5	68.5	68.5	28.5	28.5		28.5	28.5	
Effective Green, g (s)	78.5	78.5	78.5	68.5	68.5	68.5	28.5	28.5		28.5	28.5	
Actuated g/C Ratio	0.65	0.65	0.65	0.57	0.57	0.57	0.24	0.24		0.24	0.24	
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5		6.5	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	252	1230	989	324	1073	843	221	386		288	396	
v/s Ratio Prot	0.03	c0.40			c0.46			0.03			0.10	
v/s Ratio Perm	0.30		0.03	0.15		0.04	0.07			c0.16		
v/c Ratio	0.50	0.61	0.04	0.26	0.80	0.07	0.31	0.13		0.66	0.41	
Uniform Delay, d1	17.7	12.0	7.4	13.0	20.4	11.5	37.6	36.0		41.3	38.7	
Progression Factor	1.00	1.00	1.00	1.30	1.10	2.10	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	2.3	0.1	0.8	2.7	0.1	0.8	0.2		5.3	0.7	
Delay (s)	19.3	14.2	7.5	17.6	25.1	24.3	38.4	36.1		46.6	39.4	
Level of Service	B	B	A	B	C	C	D	D		D	D	
Approach Delay (s)		14.4			24.4			37.1			42.8	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	101.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	710	105	75	980	55	70	5	45	35	10	30
Future Volume (vph)	20	710	105	75	980	55	70	5	45	35	10	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0	6.0		6.5			6.5	
Lane Util. Factor		0.95			1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.99			1.00	0.93		0.99			0.99	
Flpb, ped/bikes		1.00			1.00	1.00		0.99			1.00	
Frt		0.98			1.00	0.85		0.95			0.95	
Flt Protected		1.00			1.00	1.00		0.97			0.98	
Satd. Flow (prot)		3468			1871	1496		1724			1726	
Flt Permitted		0.84			0.87	1.00		0.80			0.82	
Satd. Flow (perm)		2912			1631	1496		1413			1443	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	21	755	112	80	1043	59	74	5	48	37	11	32
RTOR Reduction (vph)	0	9	0	0	0	16	0	19	0	0	20	0
Lane Group Flow (vph)	0	879	0	0	1123	43	0	108	0	0	60	0
Confl. Peds. (#/hr)	20		15	15		20	5		10	10		5
Heavy Vehicles (%)	0%	1%	3%	3%	1%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2		2	4			4		
Actuated Green, G (s)		85.5			85.5	85.5		22.0			22.0	
Effective Green, g (s)		85.5			85.5	85.5		22.0			22.0	
Actuated g/C Ratio		0.71			0.71	0.71		0.18			0.18	
Clearance Time (s)		6.0			6.0	6.0		6.5			6.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		2074			1162	1065		259			264	
v/s Ratio Prot												
v/s Ratio Perm		0.30			c0.69	0.03		c0.08			0.04	
v/c Ratio		0.42			0.97	0.04		0.42			0.23	
Uniform Delay, d1		7.1			15.9	5.1		43.3			41.7	
Progression Factor		0.70			1.00	1.00		1.00			1.00	
Incremental Delay, d2		0.5			19.5	0.1		1.1			0.4	
Delay (s)		5.5			35.4	5.2		44.4			42.2	
Level of Service		A			D	A		D			D	
Approach Delay (s)		5.5			33.9			44.4			42.2	
Approach LOS		A			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Appendix H: City of Mississauga Preliminary Redesign of Bloor Street

BLOOR STREET INTEGRATED ROAD PROJECT
CENTRAL PARKWAY EAST TO CAWTHRA ROAD

LEGEND

- PROPOSED LANDSCAPE ZONE
- PROPOSED PAVEMENT / CYCLE TRACK
- PROPOSED SIDEWALK
- PROPOSED HARDSCAPE BUFFER / SPLASH PAD
- EXISTING PROPERTY LINE
- PROPOSED NOISE WALL
- PROPOSED TREES



DESIGN BY

C.E.T.

DEPARTMENTAL APPROVAL

SILVIO CESARIO P.ENG.

APPROVED BY

MISSISSAUGA

PRODUCED FOR — T&M ENGINEERING AND WORKS

BLOOR STREET
INTEGRATED ROAD PROJCET EA
CENTRAL PARK WAY (E) VD TO CAWTHRA RD

SCALE 1:1000	AREA BLOOR ST.	PROJECT No. 13-1154
C.A.D.D. BY A.C.	CHECKED BY M.P.	PLAN No.
DATE 2023-05-15	SHEET 01 OF 04	

BLOOR STREET INTEGRATED ROAD PROJECT
CEDAR CREEK DRIVE TO GRAND FORKS RD

LEGEND

- PROPOSED LANDSCAPE ZONE
- PROPOSED PAVEMENT / CYCLE TRACK
- PROPOSED SIDEWALK
- PROPOSED HARDSCAPE BUFFER / SPLASH PAD
- EXISTING PROPERTY LINE
- PROPOSED NOISE WALL
- PROPOSED TREES



DESIGN BY _____ C.E.T.

APPROVED BY

DEPARTMENTAL APPROVAL

SILVIO CESARIO P.ENG.

MISSISSAUGA

PRODUCED FOR - T&W ENGINEERING WORKS

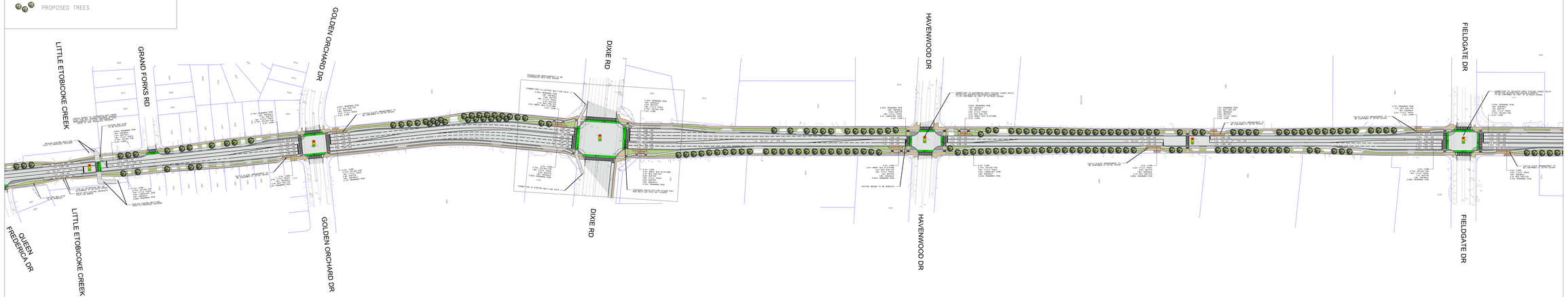
BLOOR STREET
INTEGRATED ROAD PROJECT
CEDAR CREEK DR TO GRAND FORKS RD

SCALE 1:1000	AREA BLOOR ST	PROJECT No. 13-ISA
C.A.D.D. BY A.C.	CHECKED BY M.P.	PLAN No.
DATE 2023-05-15	SHEET 02 OF 04	

BLOOR STREET INTEGRATED ROAD PROJECT
LITTLE ETOBICOKE CREEK TO FIELDGATE DRIVE

LEGEND

- PROPOSED LANDSCAPE ZONE
- PROPOSED PAVEMENT / CYCLE TRACK
- PROPOSED SIDEWALK
- PROPOSED HARDSCAPE BUFFER / SPLASH PAD
- EXISTING PROPERTY LINE
- PROPOSED NOISE WALL
- PROPOSED TREES



DESIGN BY

C.E.T.

APPROVED BY

DEPARTMENTAL APPROVAL

SILVIO DESARO P.ENG.

MISSISSAUGA

PRODUCED FOR — T&W ENGINEERING WORKS

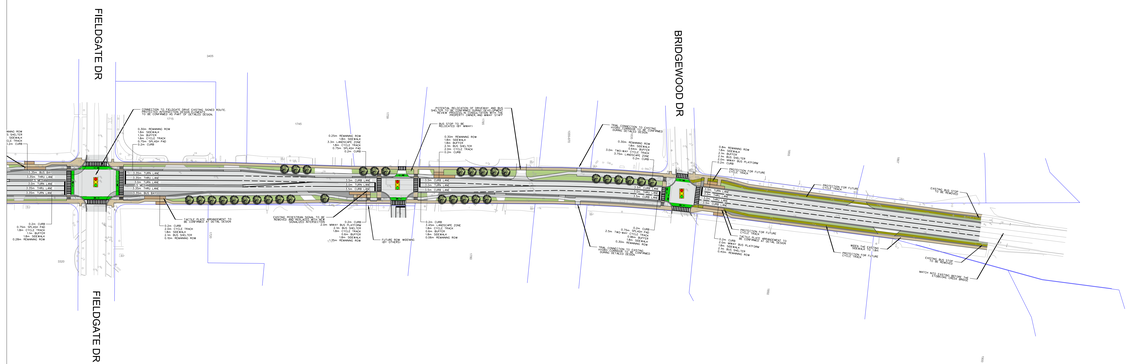
BLOOR STREET
INTEGRATED ROAD PROJECT
LITTLE ETOBICOKE CREEK TO FIELDGATE DR

SCALE 1:1000	AREA BLOOR ST.	PROJECT No. 13-1154	
C.A.D.D. BY A.C.	CHECKED BY M.P.	PLAN No.	
DATE 2023-05-15	SHEET 03 OF 04		

BLOOR STREET INTEGRATED ROAD PROJECT
FIELDGATE DRIVE TO ETOBICOKE CREEK

LEGEND

- PROPOSED LANDSCAPE ZONE
- PROPOSED PAVEMENT / CYCLE TRACK
- PROPOSED SIDEWALK
- PROPOSED HARDSCAPE BUFFER / SPLASH PAD
- EXISTING PROPERTY LINE
- PROPOSED NOISE WALL
- PROPOSED TREES
- PROTECTION FOR FUTURE CYCLE TRACK



DESIGN BY

C.E.T.

APPROVED BY

DEPARTMENTAL APPROVAL

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BLOOR STREET
INTEGRATED ROAD PROJECT
FIELDGATE DR TO ETOBICOKE CREEK

SCALE 1:1000	AREA BLOOR ST.		PROJECT No. 13-1154
C.A.D.D. BY A.C.	CHECKED BY M.P.		PLAN No.
DATE 2023-05-15	SHEET 04 OF 04		